THE PREVENTIVE MAINTENANCE MONTHLY

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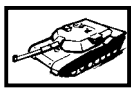
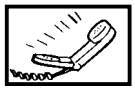
ISSUE 568 MARCH 2000





You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems, and questions or comments on material published in PS. Just write to:

MSG Half-Mast
The Preventive Maintenance Monthly
LOGSA, Bldg. 5307
Redstone Arsenal, AL 35898-7466

Or E-mail to:

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Internet Address:

http://www.logsa.army.mil/psmag/pshome.html

By Order of the Secretary of the Army:

ERIC K. SHINSEKI
General, United States Army Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the Secretary of the Army
0000701

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Fighting in the Present

America has always been a land of dreamers, from its Founding Fathers to its space scientists and explorers.

Our forefathers once dreamed of a nation where personal freedom was a reality.

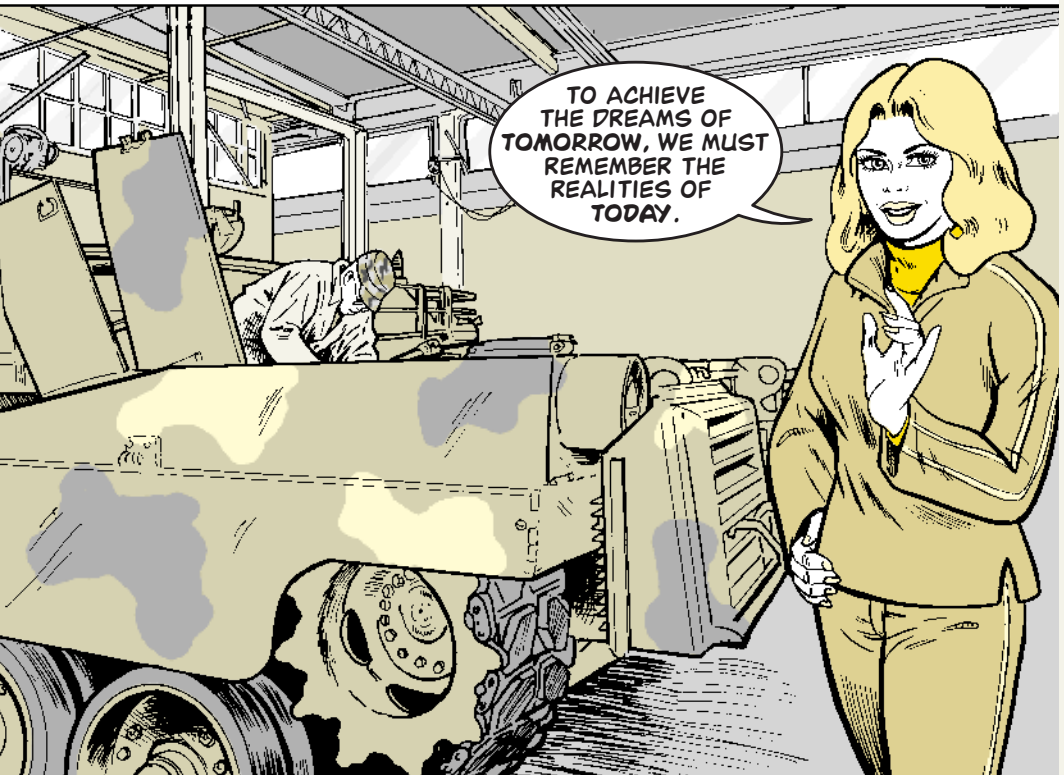
Our space scientists and explorers once dreamed of walking on the moon.

Both dreams came true, of course, but it took a lot of hard work and perseverance to make them come true. And while the dreamers were busy turning their dreams into reality, our Army's equipment maintainers and suppliers were doing their thing to ensure that the dreamers would have a chance to succeed.

Today, we have other dreamers at work, striving to develop new weapons and tactics for tomorrow. But until they succeed, we've got to survive with our current weapons and equipment.

That's where today's reality hits home. The condition of your equipment and weapons today will determine whether there are any tomorrows for our dreamers.

Consider that the next time you put on your boots and head out to the motor pool, maintenance shop or supply room. Preventive maintenance is real, it's vital and it must be done—today.



PS THE PREVENTIVE MAINTENANCE MONTHLY

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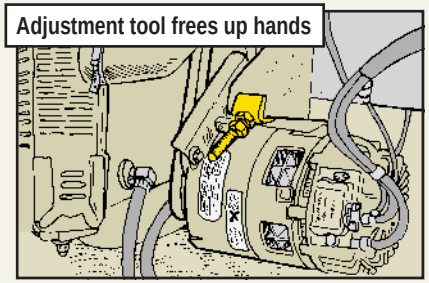
Another Way to Get 'em Tight

What would you give, mechanics, to be able to tighten HMMWV alternator belts to specification as easily as turning a wrench?

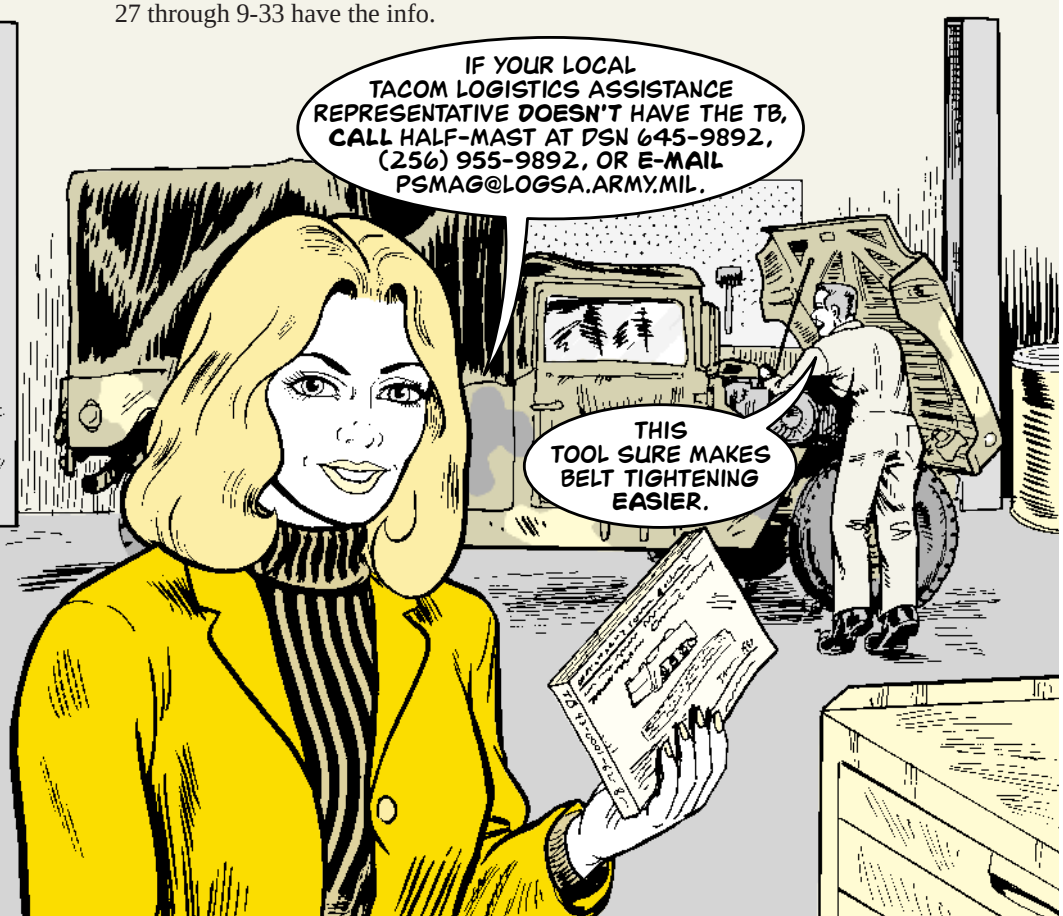
You say it'd be worth a lot? Well, all you need is an alternator drive belt adjustment tool.



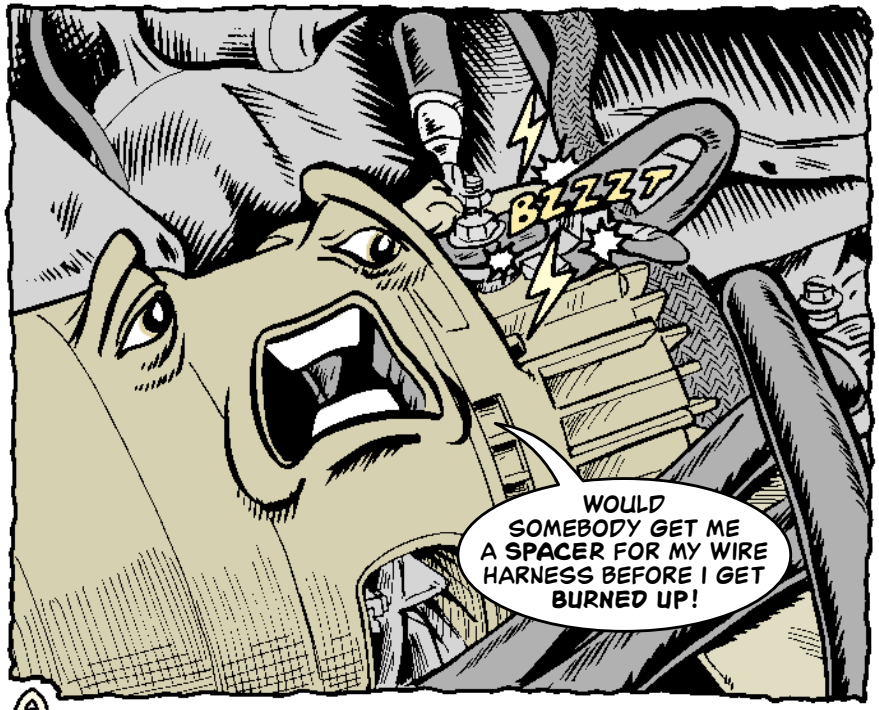
The tool holds the alternator and the belts in place after you've adjusted the tension. That leaves your hands free to tighten the alternator bolts.

But you can't buy one; you have to make it.

For the plans to make the tool and instructions on how to use it on 60-, 100-, 200- and 400-amp alternators, get a copy of TB 43-0001-62-8 (Jan 99). Pages 9-27 through 9-33 have the info.



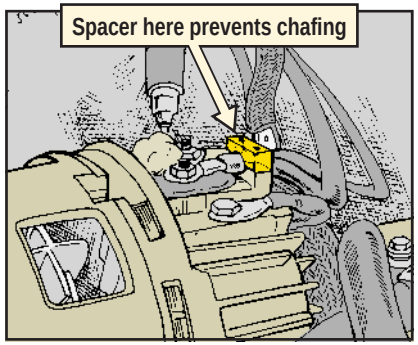
Secure Alternator Wiring



A missing spacer can be the difference between a HMMWV alternator wiring harness that works and one that's got a short.

Eyeball the rear of the 60-amp alternator in your truck to see if the harness is "trapped" under a spacer. If it is, you're good to go.

If there's no spacer, get your supply folks to order one with NSN 5365-01-289-4434. It's Item 10 in Fig 32 of TM 9-2320-280-24P-1. With the spacer in place, the harness can't chafe against the alternator body and eventually short out.



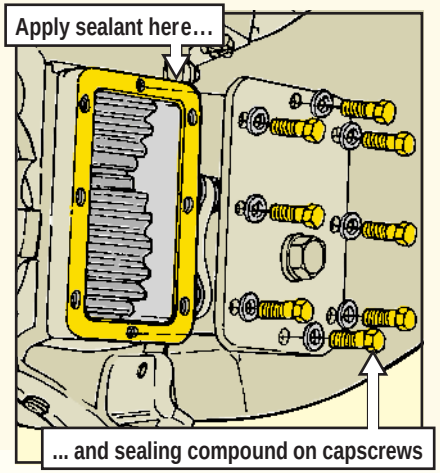
Secure the spacer with a thin spacer plate, NSN 5365-01-289-7852; washer, NSN 5310-00-721-7809; screw, NSN 5305-00-984-6212; and washer, NSN 5310-01-234-9416. They're Items 11-14 in Fig 32.

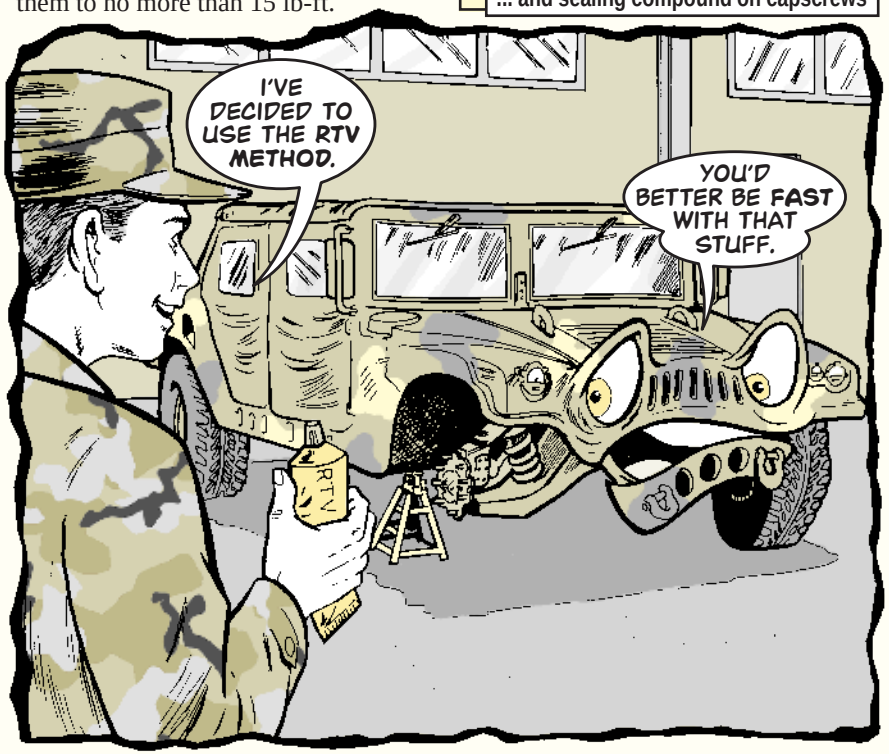
Keeping Oil in Geared Hubs

Changing how you apply the cover seal for the geared hubs on your HMMWV may help keep oil where it belongs—and keep water out.

Some folks like the RTV method shown in Para 6-10 of TM 9-2320-280-20-2, but they've learned that the sealant starts to dry just as soon as it's applied.

To make it work—and keep oil from leaking out—you've got to put the cover on quickly. Then put sealing compound, NSN 8030-01-025-1692, on the capscrews and quickly torque them to no more than 15 lb-ft.



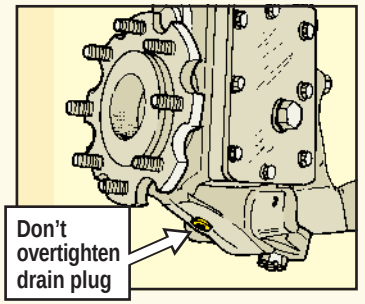


Here's another method:

Cut a piece of 1/16-in gasket paper, NSN 5330-00-270-8470, to fit the cover. You won't need any RTV under the cover, but you still need to put sealing compound on the cover capscrews and torque them to 15 lb-ft.

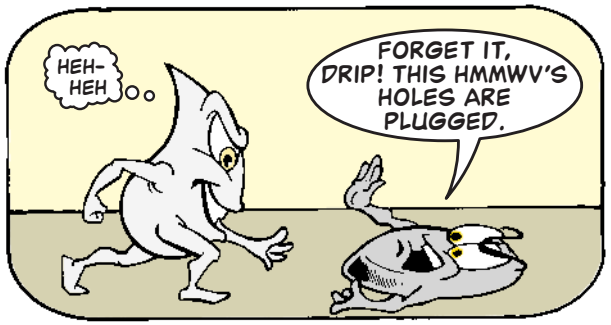
Easy on the Drain Plug

Finally, take it easy on the drain plug. Very little torque—8 to 13 lb-ft—is required to keep the plug in place. That's like finger tight plus a little twist of the wrench.



Use a 3/8-in hex head socket drive to remove the plug. Anything else is likely to round off the plug head and make removal a real bear next time.

PLUG THOSE HOLES!



If your HMMWV is holey—that is, if there are lots of holes where equipment or components were once mounted—you know that dust, mud and water are getting into your truck.

It's especially true for holes in or around the rear wheel wells or cargo area.

Keep that bad stuff outside where it belongs with button plugs. There are hundreds of different sizes of plugs available in Federal Supply Class 5340 on FED LOG, but here are three sizes (diameter) that might prove most useful.

You can also use a short bolt, nut and two washers to plug up holes. Put one washer on each side of the hole. Be sure the bolt is short enough that it won't interfere with or damage anything around it.

Hole size	Plug, NSN 5340-00-
1/2 inch	205-5244
3/8 inch	687-3224
5/16 inch	281-9896

Family of Medium Tactical Vehicles . . .

Water and Injectors Don't Mix

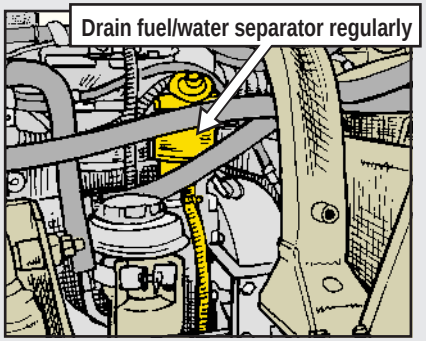
Fuel goes through fuel injectors like grease through a grease gun as long as there's no water in the fuel.

Any water going through the injectors is cool. The injectors are hot. When they meet, the injectors crack, and then the engine won't run.

That's why your FMTV has a fuel-water separator mounted on the engine. It keeps water out of the fuel.

There's only one problem: You've got to make an after-operation PMCS check to keep the fuel-water separator on the job. If you don't drain the water from the separator as needed, water eventually ends up in the fuel going to the injectors.

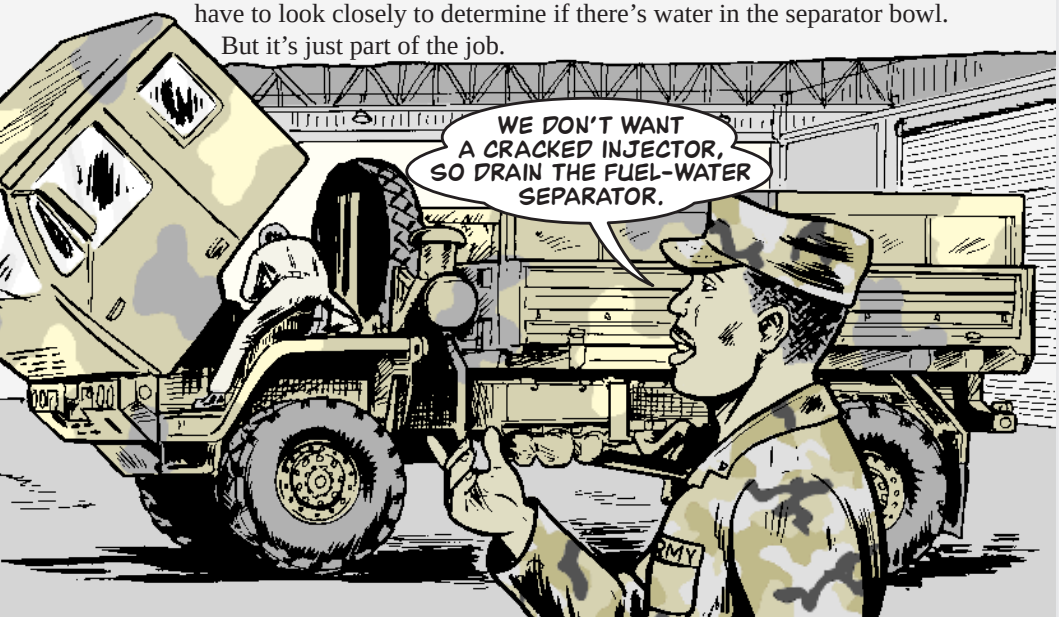
Check for water in the fuel-water separator bowl like it says in Item 33 in TM 9-2320-365-10 for 2½-ton models and Item 32 in TM 9-2320-366-10 for 5-ton models. If there is water in the bowl, drain it.



Put a container under the drain hose, turn the knurled nut on the separator to the left, and let the watered-down fuel drain until only pure fuel comes out.

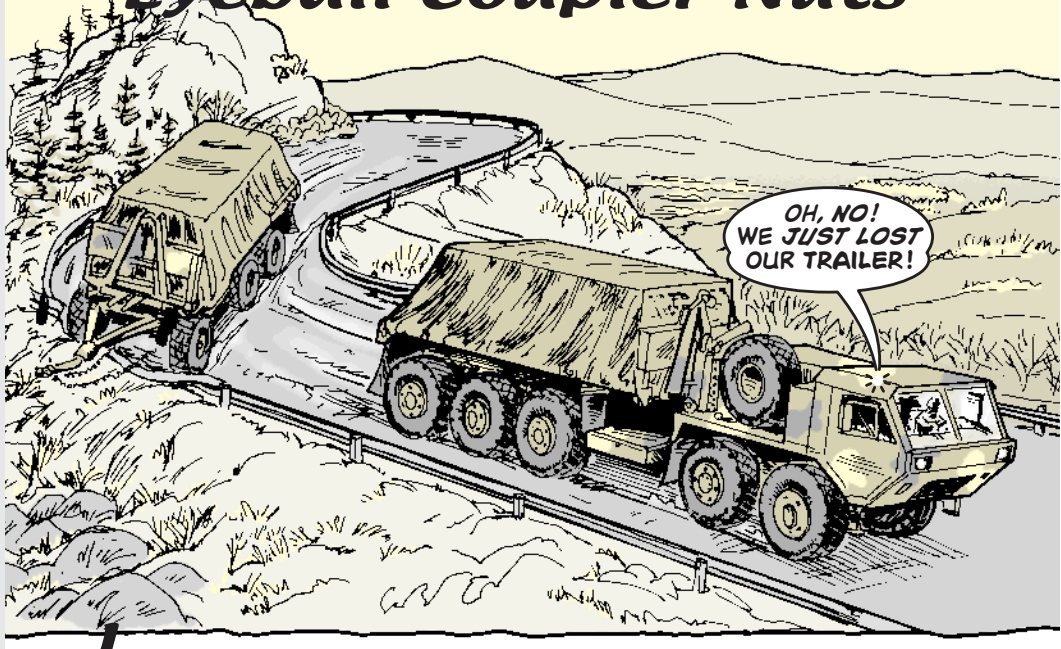
When it does, close the drain valve and dispose of the fuel in the container as directed by your unit's SOP.

Do this after **every** operation. Yes, you'll have to raise the cab, and yes, you'll have to look closely to determine if there's water in the separator bowl. But it's just part of the job.



Palletized Loading System . . .

Eyeball Coupler Nuts



Loose capscrew nuts on the M1074 and M1075's self-guided coupler sleeve can lead to the separation of your tractor from its trailer.

These nuts attach the coupler sleeve to the tractor's rear crossmember. If enough nuts get loose, the coupler can break away, leaving the trailer behind.

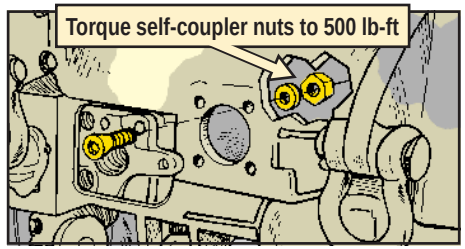
So, give the nuts a close inspection right now.

You'll have to get underneath to make the check, plus you may have to clean the nuts off and use a flashlight. Do whatever it takes.

If you see that any of the nuts are loose, damaged or missing, or if you can see that they have moved—chipped or scratched paint around the heads—tell your mechanic.

He'll make the repairs or replacement and torque the nuts to 500 lb-ft, as called for in Change 4's revision to Para 15-13 of TM 9-2320-364-20-3. Earlier torque requirements of 320 lb-ft are not enough to ensure the coupler remains tightly mounted.

If the nuts do not show any damage or looseness, your mechanic should torque them to 500 lb-ft as soon as possible.



Military Load Classifications . . .

MLCs on the WWW

Tank-automotive and Armaments Command and the US Army Engineer School have teamed up to provide a military load classification (MLC) list for most wheeled and tracked vehicles.

This list takes up where FM 5-170, *Engineer Reconnaissance*, leaves off. Now, when you need to mark your vehicles for a road march, you can get the information at one location.

Call up the list on the Internet at:

www.wood.army.mil/CELL/index.htm

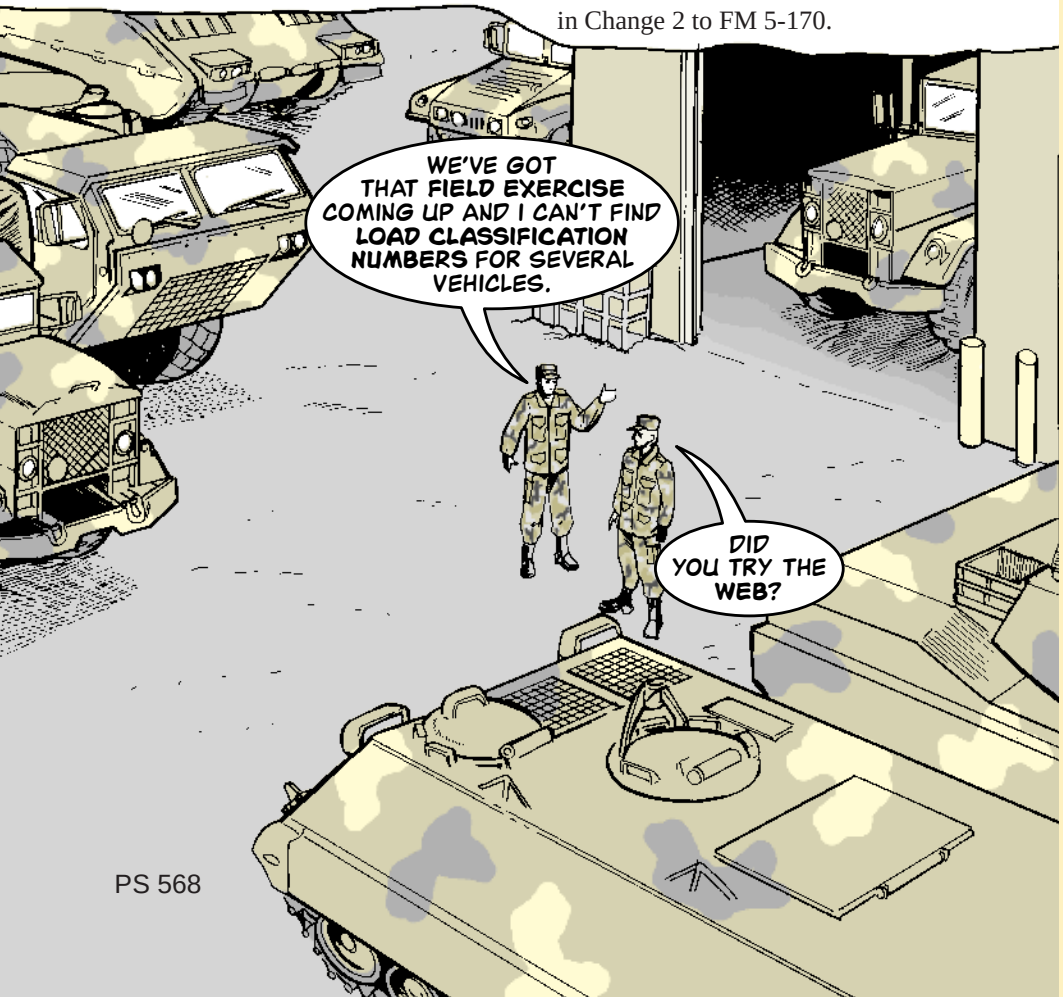
You can e-mail for the list at:

warrick@wood.army.mil

Or you can call:

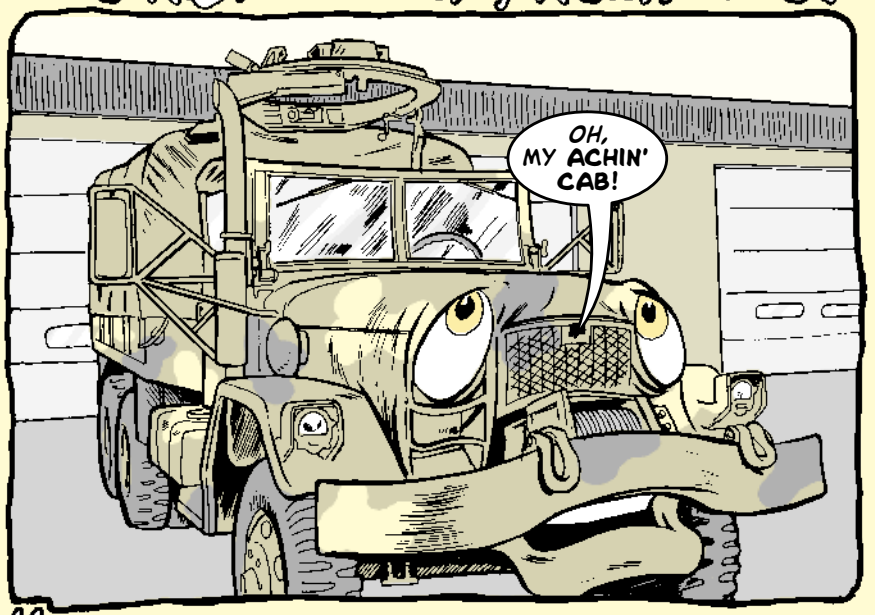
(573) 569-0131, Ext 37767

The Engineer School also plans to make the table into a graphic training aid (GTA) to be included in the next revision to FM 5-103, *Survivability*, and in Change 2 to FM 5-170.



2½-Ton, 5-Ton Trucks . . .

Use Right Mount, Reinforced

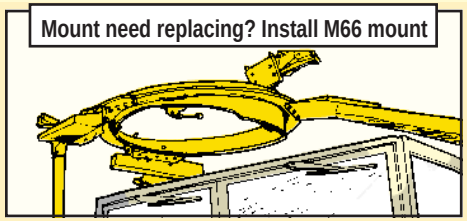


Now is a good time to eyeball the cabs on your older M44-series 2½-ton and M809-series and M939-series 5-ton trucks that have machine gun ring mounts.

Many of these older trucks still use the obsolete M36 ring mounts that have no reinforcement against vibration. The vibration can cause cab cracks that make your vehicle NMC.

If you find no damage, continue to use the old ring mount.

If you find damage on an M939-series 5-ton, get with your support to fix the damage and install the M66 ring mount, NSN 1005-00-701-2810, with mounting kit, NSN 1005-01-432-3339, and cab reinforcement kit, NSN 2590-01-436-9144.



For the M44-series 2½-ton and M809-series 5-ton trucks, your support will need mounting kit, NSN 1005-01-226-4589, and cab reinforcement kit, NSN 2590-01-322-2694, in addition to the M66 ring mount.

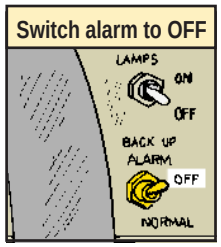
Mounting instructions come with the kits. Once the M66 is installed, unit maintenance can replace most parts of the reinforcement kit. The parts breakdowns are found in the parts manuals for the trucks.

Don't Be Alarmed

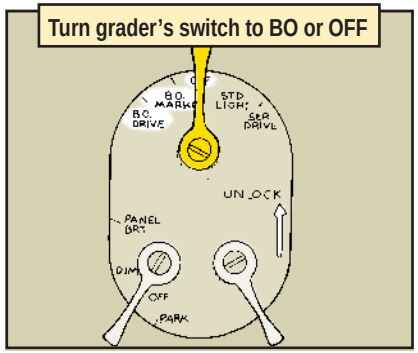
Operators, the last thing you want in a **tactical** situation is a backup alarm going off on your truck or construction equipment.

So, make sure it won't.

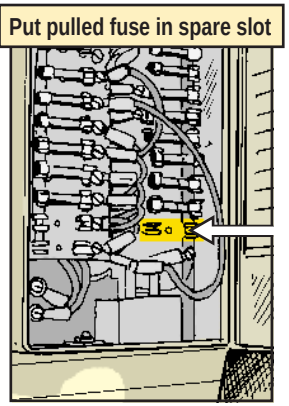
On M915/A1/A2-series trucks, use the switch on the dash to shut off the alarm.



On CAT equipment, like the 130G grader, 621B scraper or MW24C scoop loader, turn the light switch to a B.O. (blackout) position or OFF to kill the alarm.



Other types of commercial construction equipment have a fuse for the alarm system. So, you'll have to pull the fuse and store it in an unused spare slot.



If your vehicle doesn't have either a switch or a separate fuse, check the wires at the alarm for a connector. Pull the connector apart carefully so you can put it back together later.

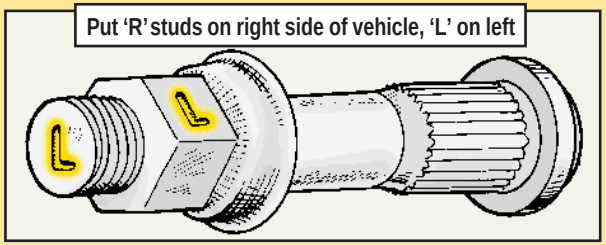
When you're operating your gear without the backup alarm, use a ground guide and lots of extra caution when backing.

Keep Wheels on Tight

There's a reason wheel studs are marked with Ls or Rs, and it has everything to do with keeping the wheels on your medium and heavy tactical trucks.

Studs marked with a capital L must be used only on wheels on the driver's side of a vehicle. Left-hand studs have left-hand threads that tighten to the left (counterclockwise). If studs marked with a capital L are used on right (passenger) side wheels, the wheel nuts will work loose.

Studs marked with a capital R must be used only on wheels on the passenger's side of a vehicle. Right-hand studs have right-hand threads that tighten to the right (clockwise).



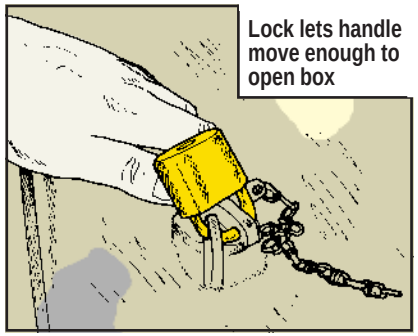
If studs marked with a capital R are used on left (driver) side wheels, those wheel nuts will loosen, too.

Keep the wheels on your trucks by eyeballing all wheel studs right now. It's especially important for trucks that are new to your unit and trucks that have had wheel or hub maintenance performed lately.

Is Your Box Locked?

Dear Editor,

The locks on the sponson boxes of our tanks don't hold the latches closed tightly enough. Even with the padlocks in place, you can turn the latch far enough to open the box!



Unfortunately, that allows the Bll, tools, and other expensive items stored there to be "misappropriated."

We've made a homemade lock guard that keeps the sponson boxes closed when they're locked. Here's how to make it:

1. Cut a 5-ft concertina wire picket, NSN 5660-00-270-1587, in half. Each half will make one lock guard.

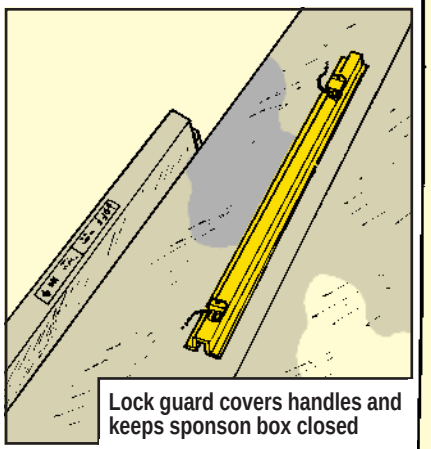
2. Place the picket on top of the sponson box and mark where the staples line up on the picket.

3. Cut a 1/2 inch wide slot for each staple in the raised portion of the picket at both marks.

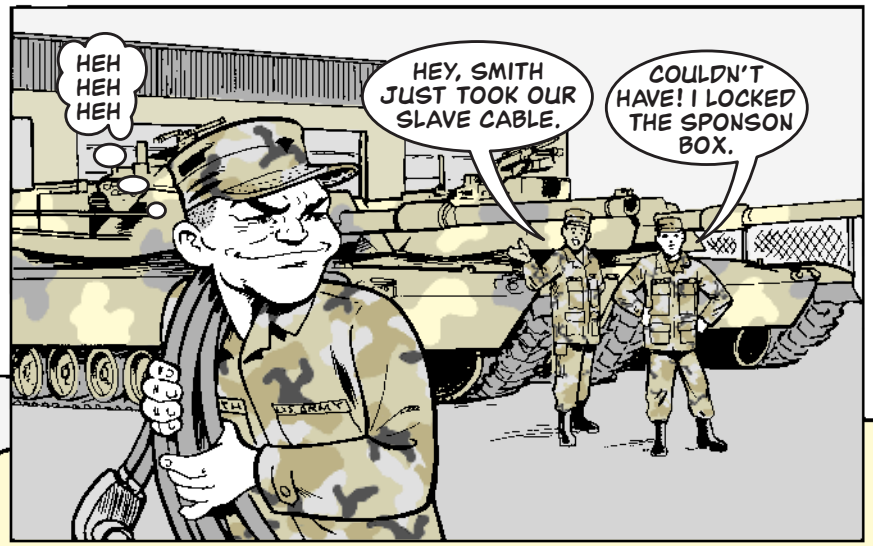
4. Paint the picket with CARC to match the camouflage pattern of your tank.

5. Lay the finished lock guard in place on the sponson box so that the staples show under the slots in the guard. Then lock the sponson box by inserting the padlocks through the staples.

With the lock guard in place, the handles can't be moved and your valuables stay where they're supposed to.



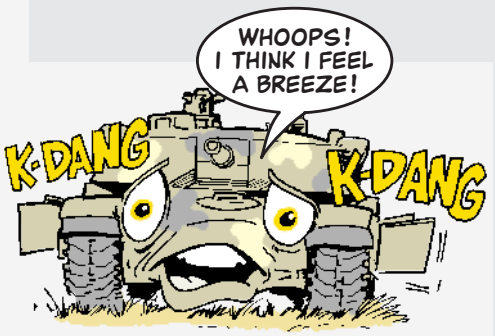
PFC Grant Chadwick
3/3d ACR
Ft Carson, CO



FROM THE DESK OF THE Editor

Looks like you've got that solution all locked up!

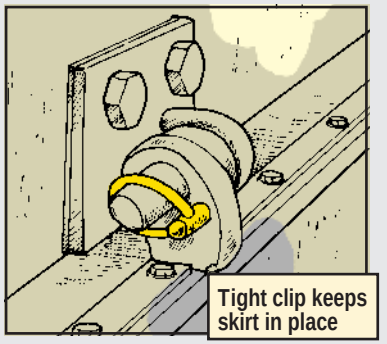
Keep Clips in Their Place



Wear and tear can take the starch out of just about anything. That includes the retaining clips on your tank's skirt pins.

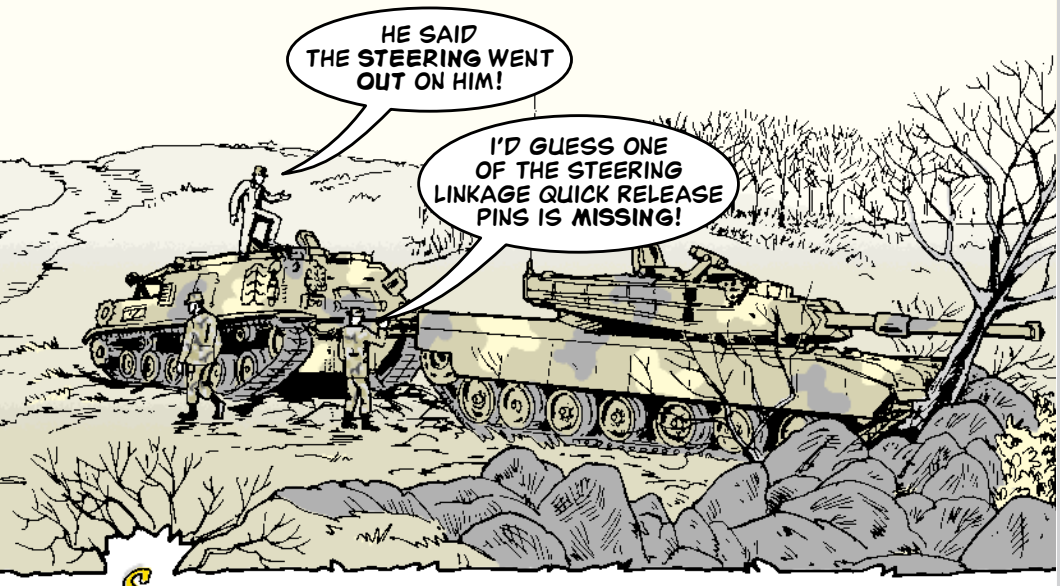
After a while, the metal loop on the retaining clip doesn't hold tight anymore. If it slips loose, the retaining clip can fall out. The next thing you know, the track skirts are flapping in the breeze like yesterday's laundry.

Check the retaining clips as part of your before-operation and after-operation PMCS. If any of the clips are missing or loose, get 'em replaced right away. NSN 5315-01-136-7646 gets a new clip.



M1-Series Tanks . . .

Keep Pins in Place

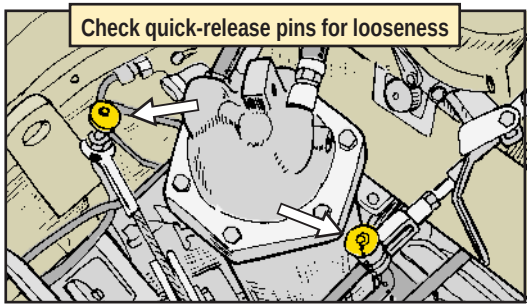


Sometimes quick-release pins are a little too "quick" for their own good. That's especially true of the steering and brake linkage quick-release pins in your tank.

Dirt and corrosion jam each pin's retaining mechanism. When that happens, the pin won't lock in place. So, after you install it, the pin may not stay put. That means you can lose your steering or brakes, depending on which pins fall out.

When you check the quick-release pins as part of your before-operation PMCS, make sure the spring-loaded balls are holding each pin firmly in place.

Just give the pin a pull. If it comes out too easily, clean it or replace it with a new pin. The steering pin, NSN 5315-00-904-4788, slips out most often, so check it closely.



The parking brake pins, NSN 5315-00-008-5826, and the service brake pins, NSN 5315-00-904-6182, need to be checked, too.

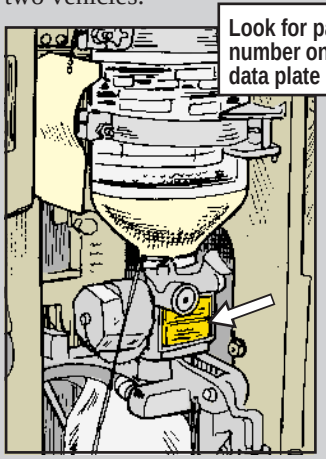
M2/M3-Series Bradleys . . .

Check the Valves Now!

Bradley crewmen, the forward crew compartment bottle and valve assembly, NSN 4210-01-107-3329, on the fire suppression system uses one of three different valves. Two of them can cause safety problems:

- Valve, part number (PN) 12308781-1, has problems with internal corrosion that could prevent it from working.
- Valve, PN 12308781-2, has a problem with the cable pull support bracket. When this valve is located in the forward crew compartment, the support bracket interferes with the operation of the cable for the manual release lever. When you need to activate the fire extinguisher, it may not work.

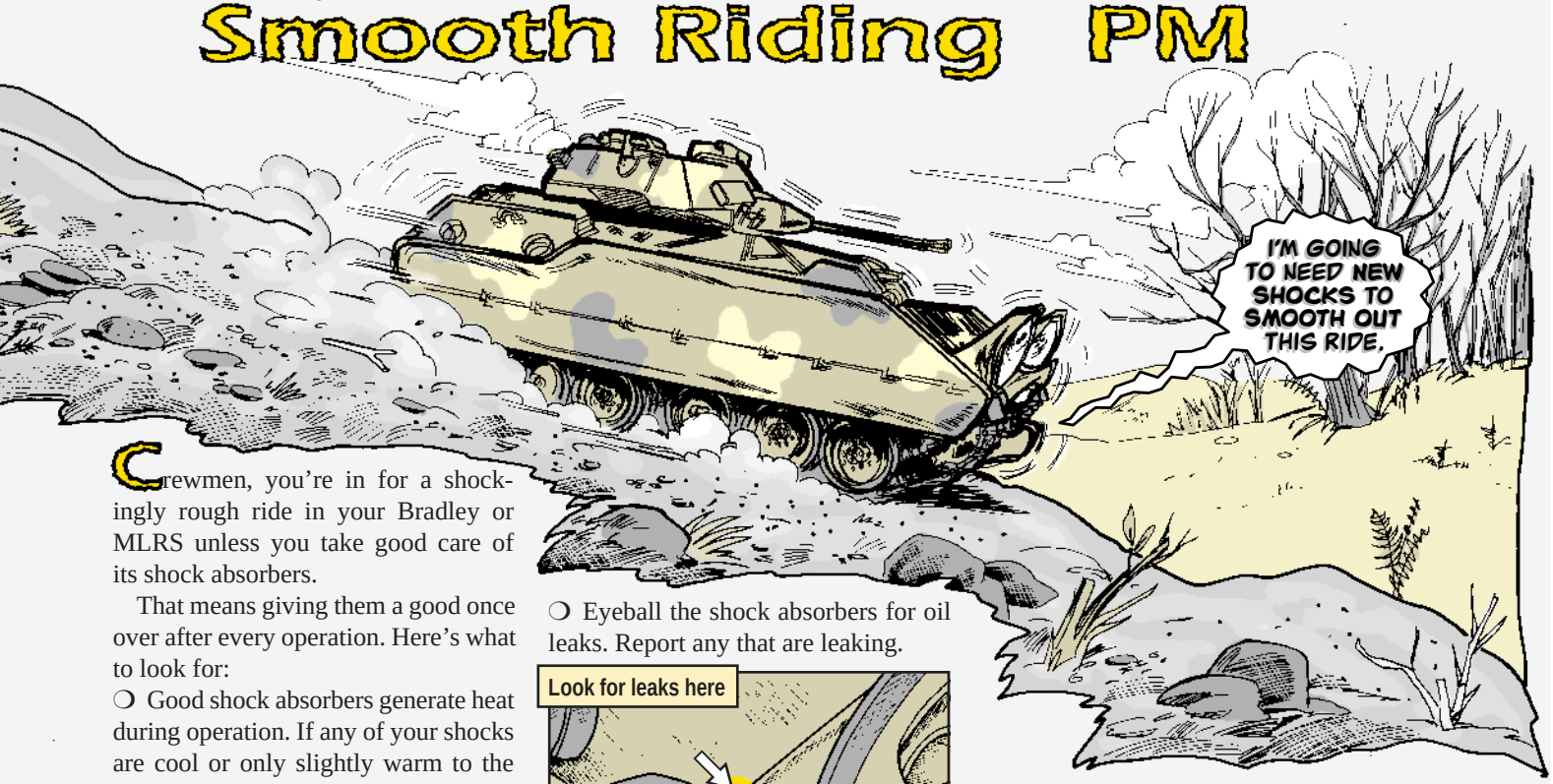
If the valve, PN 12308781-2, is used in the forward crew compartment of the **basic** M2/M3 Bradley, don't worry. There is no cable problem for these two vehicles.



Valve, PN 12308781-3, is the **only** one that can be safely used in the forward crew compartment of **all** Bradleys.

If your vehicle has valve, PN 12308781-1 or 12308781-2, turn in the entire bottle and valve assembly for Halon reclamation and order a new bottle and valve assembly on a DD Form 1348-6. In the REMARKS block, specify that the assembly must include valve, PN 12308781-3. Otherwise, you could receive one of the two valves with safety problems.

Smooth Riding PM



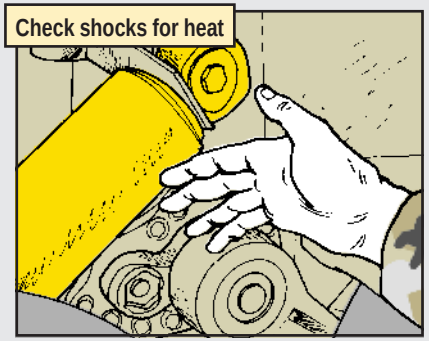
Crewmen, you're in for a shockingly rough ride in your Bradley or MLRS unless you take good care of its shock absorbers.

That means giving them a good once over after every operation. Here's what to look for:

❍ Good shock absorbers generate heat during operation. If any of your shocks are cool or only slightly warm to the touch, report 'em. They aren't doing their job.

Watch your hand when making this check, though. Good shocks can get hot enough to burn you.

Check shocks for heat

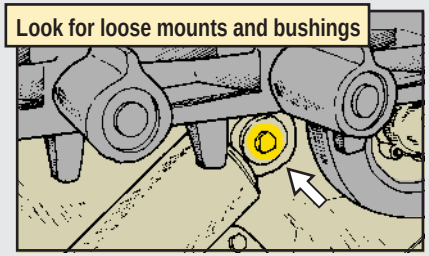


❍ Eyeball the shock absorbers for oil leaks. Report any that are leaking.

Look for leaks here

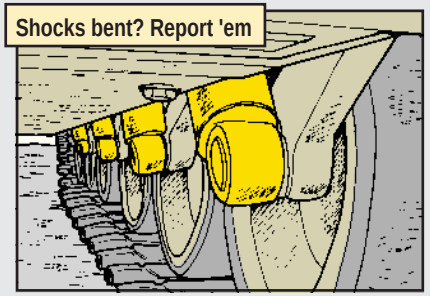
❍ Feel the shock absorber mounts and bushings. They should be nice and tight. Let your mechanic know about any loose ones.

Look for loose mounts and bushings



❍ From the front of the vehicle, look straight down the track line at the shock absorbers. Checking from that angle makes it easy to find bent shocks. Report any shock absorbers that aren't straight.

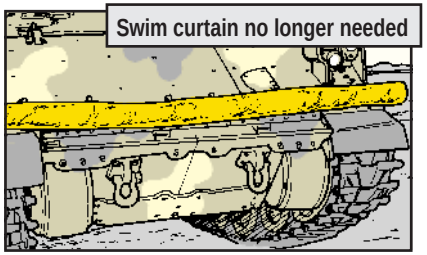
Shocks bent? Report 'em



Close the Curtain on Swimming

Now that your Bradley is no longer allowed to swim, the water barrier system (swim curtain) is no longer needed. So why not get rid of it?

Swim curtain no longer needed

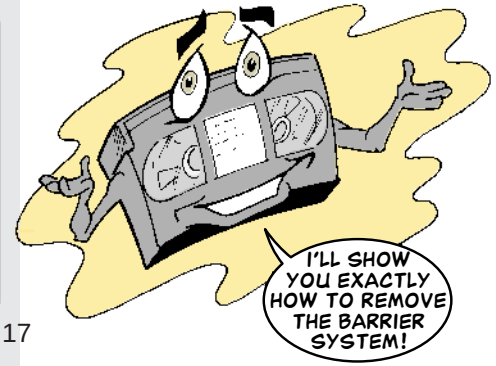


Good idea, but it's easier said than done. After all, some of the hardware items from the barrier system **must** be reinstalled to ensure hull integrity.

That's why the Bradley PM office developed a videotape that shows you—step-by-step—the right way to remove the barrier system.

To get a copy of the tape, call DSN 786-5239 or (810) 574-5239. Or write to:

Program Executive Office
Ground Combat and Support Systems
ATTN: SFAE-GCSS-W-BV-L
Warren, MI 48397-5000



Bradley Fuel Cap Repair Kit

Use NSN 2590-01-461-5874 to order the new fuel cap repair kit for your M2/M3-series Bradley. The new kit will also be added to the PMCS annual power pack service kit, NSN 4910-01-461-2809. Make a note until the TMs are updated.

M1-Series Tank Screwdriver

NSN 5120-00-278-1283 gets a new flat-tip screwdriver, 5/16 inch wide by 4 inches long, for your tank. It replaces NSN 5120-00-517-6906, which is listed in Appendix B of the -10-2 TMs and is no longer available. Make a note until the TMs are updated.

M1-Series Tank Bore Brush

Is the bristle section worn out on your tank's bore brush, NSN 1015-01-209-3483? Don't replace the whole brush. Get the bristle portion with NSN 1015-01-355-9526. Make a note until the NSN is added to the TMs.

M578 Tool Bracket

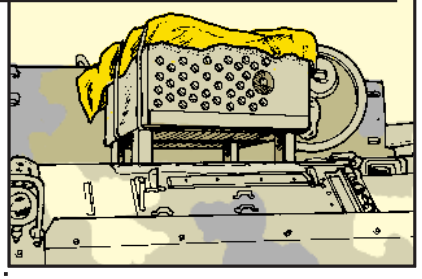
Use NSN 2540-00-409-8891 to order a new pioneer tool bracket assembly for your M578 recovery vehicle. The NSN listed for Item 20 in Fig 83 of TM 9-2350-238-24P-2 is obsolete.

Keep Generator Covered

The auxiliary power equipment cover, NSN 2540-00-066-4281, for your command post carrier's 4.2-KW generator is designed to fit over the generator before the generator is placed in its storage box.

Unfortunately, there is so little clearance between the generator and the storage box that the cover won't stay on when the generator is placed in the storage box. If you try to force it, the cover gets ripped up. Pretty soon you're buying a new cover for about $100.

Old cover doesn't protect generator well

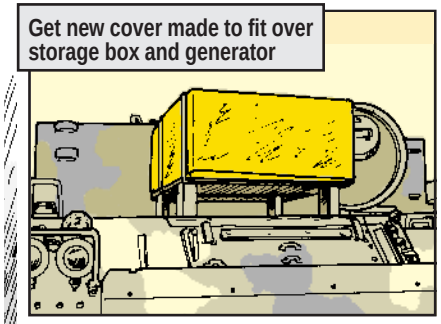


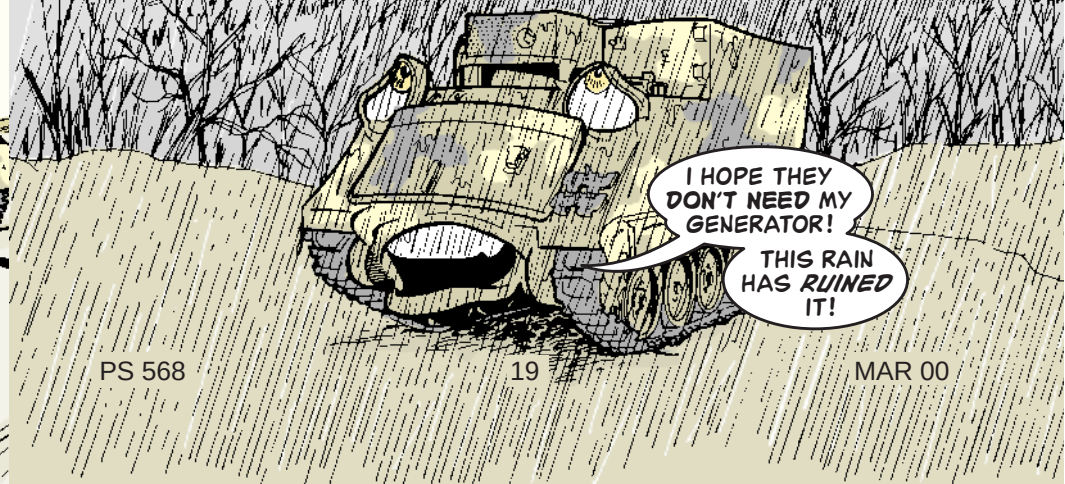
Most operators either don't use the cover at all or try spreading it over the top of the generator and strapping it in place on the storage box. The generator doesn't get much protection that way and the cover often blows away in the field.

A better alternative is to have your canvas shop make a new cover that will fit around the outside of the storage box. Two cargo straps, NSN 3990-01-043-8466, around the cover keep it firmly in place.

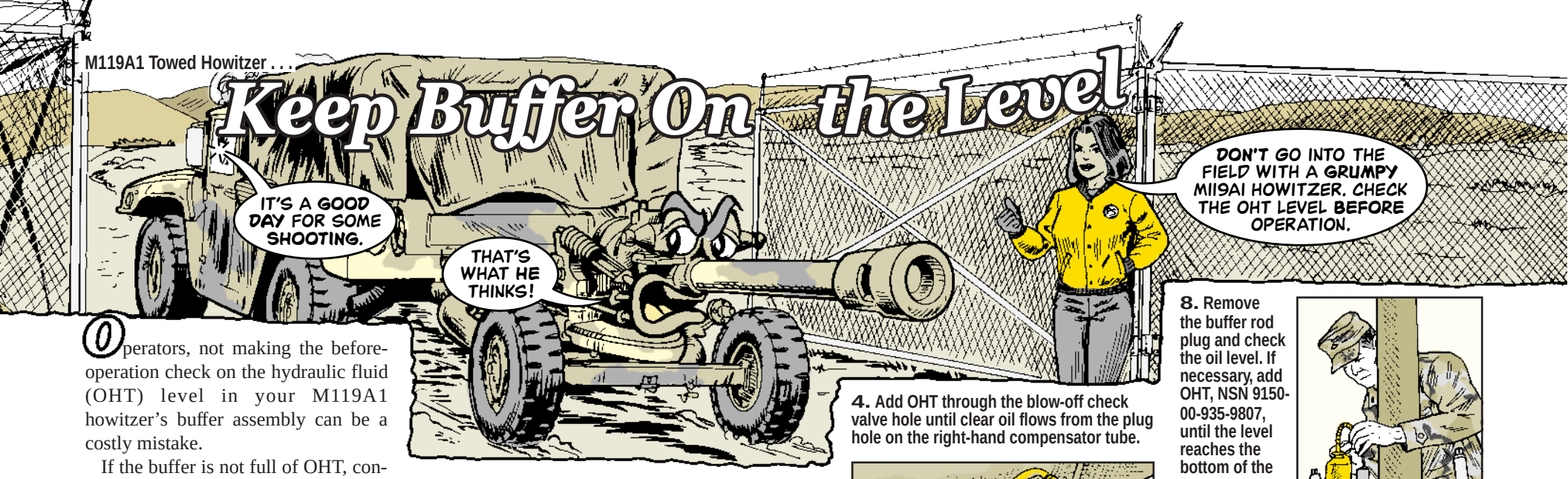
The new cover gets used, which protects the generator, and the cover lasts, which saves your unit a lot of money.

Get new cover made to fit over storage box and generator





Keep Buffer On the Level



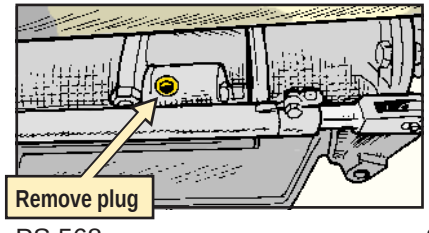
Operators, not making the before-operation check on the hydraulic fluid (OHT) level in your M119A1 howitzer's buffer assembly can be a costly mistake.

If the buffer is not full of OHT, condensation will create rust on the exposed portion of the buffer cylinder. Condensation will also contaminate the OHT. Water-contaminated OHT causes cylinder scoring and damage to the brass valve.

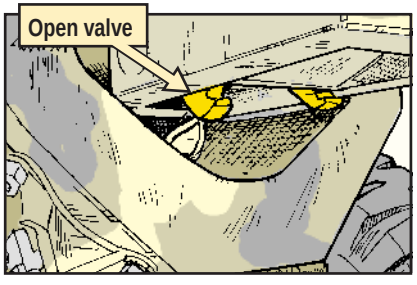
If you're lucky, the buffer assembly can be overhauled—for just $20,000. If the assembly is too far gone for repairs, you'll be billed $70,000 for a new one.

With prices like that, it pays to check the oil level often. Here's how:

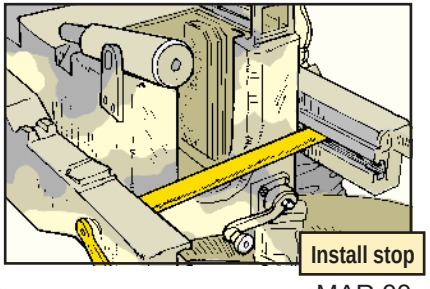
1. At 0 mils elevation, remove the plugs on the right-hand compensator tube and the blow-off check valve on the left-hand compensator tube.



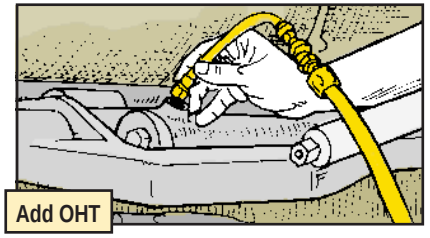
2. Fully open the variable recoil adjustment valve by turning it counterclockwise as far as it will turn. Count and remember the number of clicks so you can return it to the same position when you're done.



3. Install the run-back stop and elevate the howitzer to 180 mils.



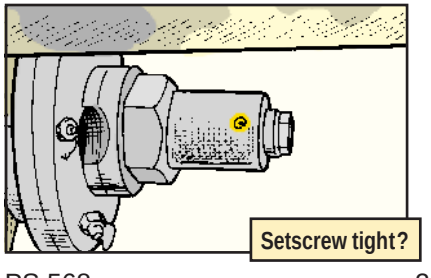
4. Add OHT through the blow-off check valve hole until clear oil flows from the plug hole on the right-hand compensator tube.



5. Reinstall the right-hand compensator tube plug and the blow-off check valve.

6. Elevate the cannon tube to maximum elevation.

7. Make sure the buffer rod adapter nut setscrews are in place and tight. Trying to loosen the filler plug with a loose adapter nut lets the entire variable recoil mechanism turn. That loosens the collar and starts an OHT leak.



8. Remove the buffer rod plug and check the oil level. If necessary, add OHT, NSN 9150-00-935-9807, until the level reaches the bottom of the plug threads.

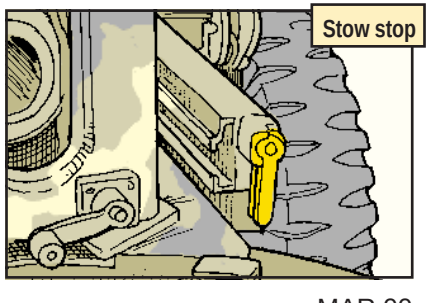
9. Hand tighten the buffer rod plug.

10. Depress and elevate the gun tube two or three times to purge air from the oil.

11. Repeat steps 6 and 8. If the oil level is correct, reinstall the buffer rod plug and depress the cannon tube to 0 mils.

12. Reset the variable recoil adjustment valve by turning it clockwise the same number of clicks as in step 2.

Remove and stow the run-back stop.



Armored Vehicle-Launched Bridge . . .

Adjust Lube Intervals

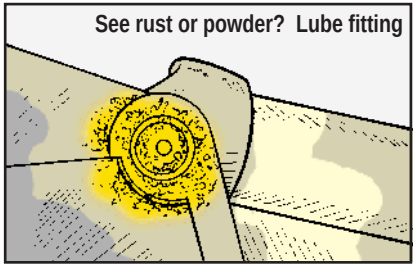
To keep your AVLB lubed, you have to follow LO 5-5420-202-12, but that's not all.

Minimum lube intervals are based on an AVLB that is launched about four times a month.

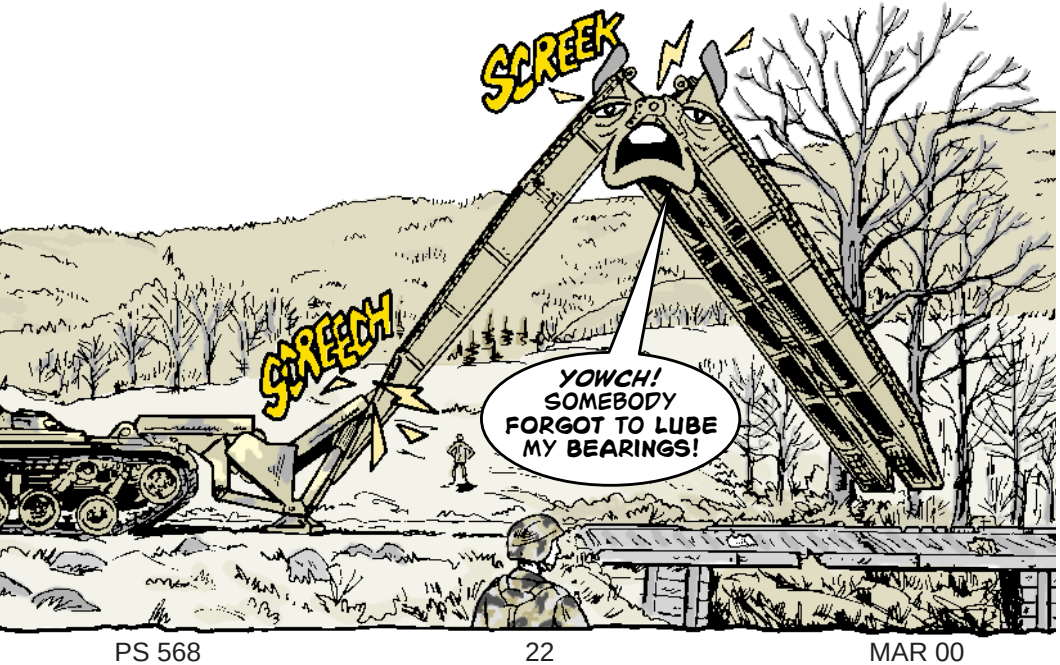
Lube more often with more launches, or if you are operating in rain, heat or dust. Any squeaking pin also needs to be found and lubed.

Without grease, bearings burn out or seize. If a bearing seizes, something breaks.

A rusty color or powdery substance around a hinge point means it needs lube. Loud or excessive squeaking of the bridge during launching or retrieving means the inner and outer center hinge pins probably need lube.

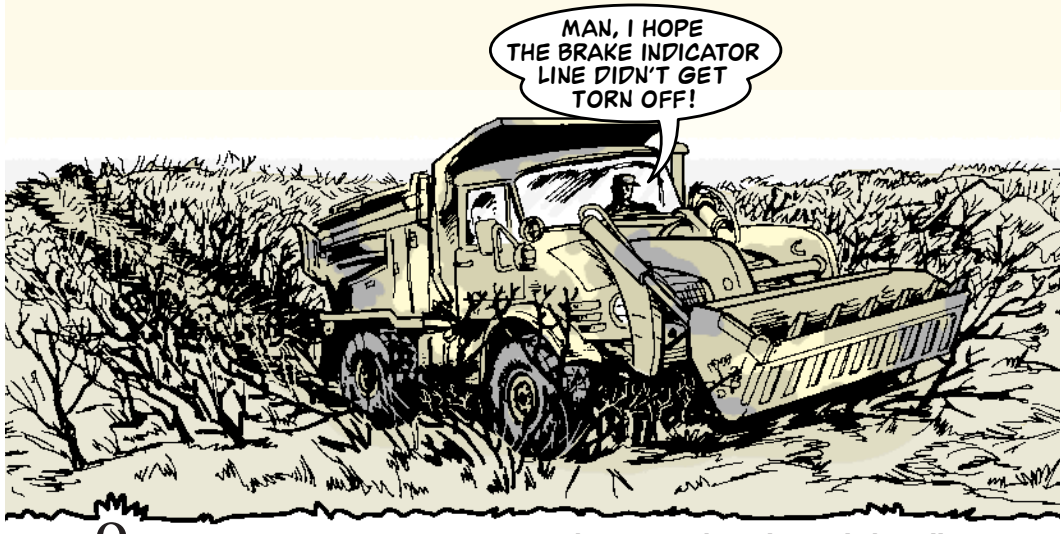


Before operation is a good time to do the extra checks. If you see rust, or if a fitting appears dry, lube it. Always wipe off the excess lube so it won't collect dirt. After lubing, launch the bridge to evenly distribute the lube. Then lube again.



Small Emplacement Excavator . . .

Lowdown on Brake Pad Line



Operators, the brake indicator light on the SEE's dashboard lets you know when:

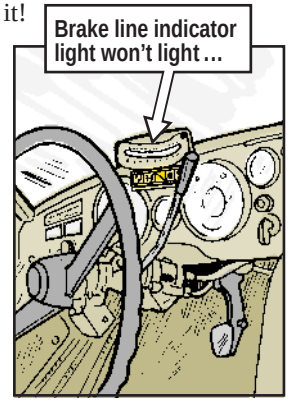
- brake fluid in the reservoir is low
- the parking brake is ON
- the vehicle's front brake pads are worn.

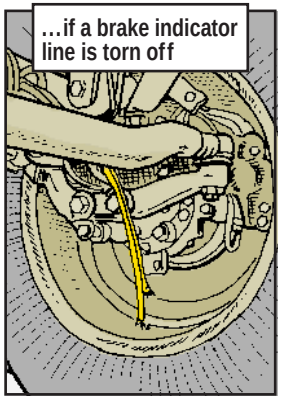
Problem is, the pads can be worn dangerously close to the brake drums and you won't even know it!

Construction operations in heavy brush can damage the indicator's brake line where it mounts into the brake pad's caliper housing. If it is torn off or damaged, you've got a disconnect with the indicator's sending unit.

That means the indicator light will never tell you the pads are worn. You're in the dark and out of luck if the brake pads are worn out.

So, before the day's run, eyeball the indicator light's brake line where it mounts into the caliper housing. If the line looks damaged, torn or dangling, report it.





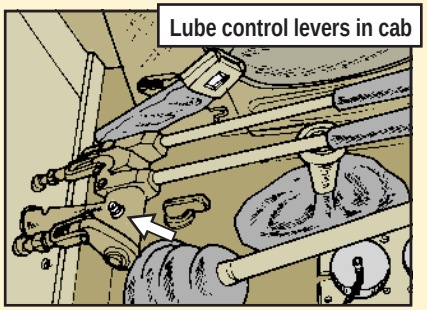
Don't Miss Grease Fittings

Operators, a few grease fittings on the SEE are often overlooked at lubing time. Some of them are right under your nose, but others are hard to find without the help of LO 5-2420-224-12 or the lube plate on the backhoe.

Bucket and Boom

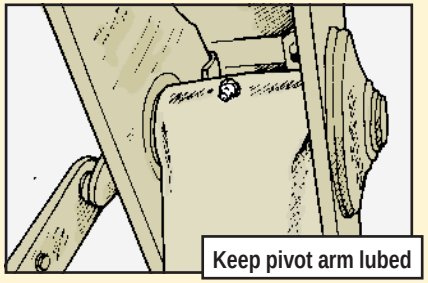
Control levers for the vehicle's boom and bucket get a constant workout during construction operations. When a lever becomes hard to pull or push, it needs lube.

The grease fitting for both of these levers is next to your right hand when you're sitting in the driver's seat. It gets overlooked simply because it's inside the cab.



Backhoe Pivot Arm

One of the grease fittings on the backhoe that's missed is the one that lubes the backhoe's dipper pivot arm. That's because the fitting is out of sight under the bend (pivot) in the arm.

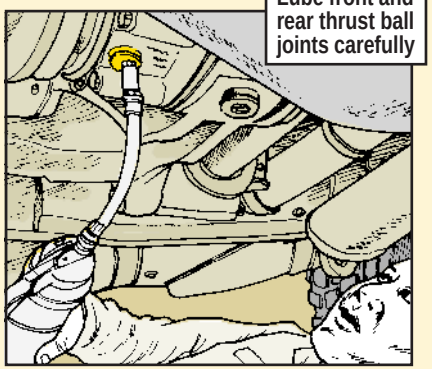


Without lube, the pivot arm's bearing can seize, causing the backhoe to bind. That means you can't excavate.

Go Easy on the Lube

Make sure you read and heed the CAUTION in Note 18 of the LO when it's time to lube the grease fittings for the front and rear thrust ball joints.

Give each fitting only four or five pumps of lube from a hand-held grease gun.



Pumping in too much lube will split open the ball joint's rubber torsion boot. A split boot means lube leaks out and water gets in. Water can rust the ball joints.

Lowdown on Tilt Cylinder

Another fitting that's often forgotten is the one for the backhoe's tilt cylinder.

It's "in the dark" when the backhoe is in the transport position. With the backhoe up, the fitting is easy to find.

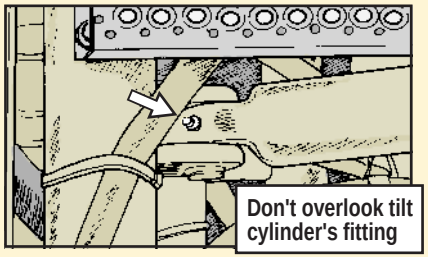
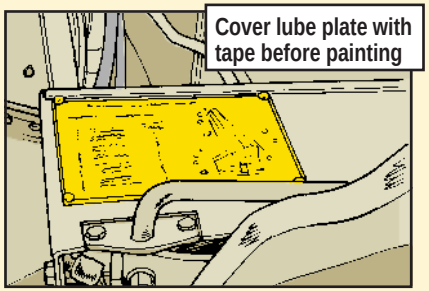


Plate Cover-up

Some paint shops have an annoying habit of spraying over the backhoe's lubrication plate. The plate is a quick reference for all the backhoe's lube points.



Use some duct or masking tape to cover the plate before the vehicle goes off to the paint booth.

If your SEE's lube plate gets painted, get a new one with NSN 9905-01-341-8183.

PS MORE

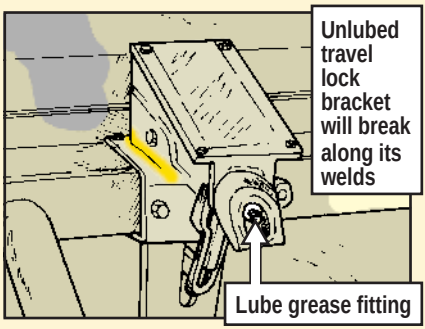
Backhoe Travel Lock

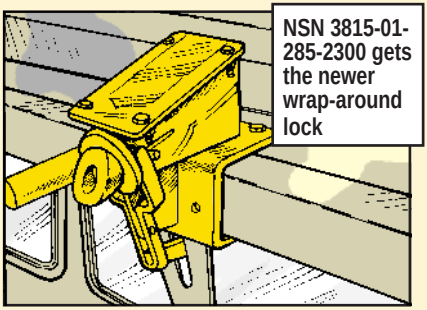
The SEE's backhoe travel lock needs lube but often doesn't get it because it's out of sight. You have to climb on top of the vehicle and reach over behind the cab to get to it.

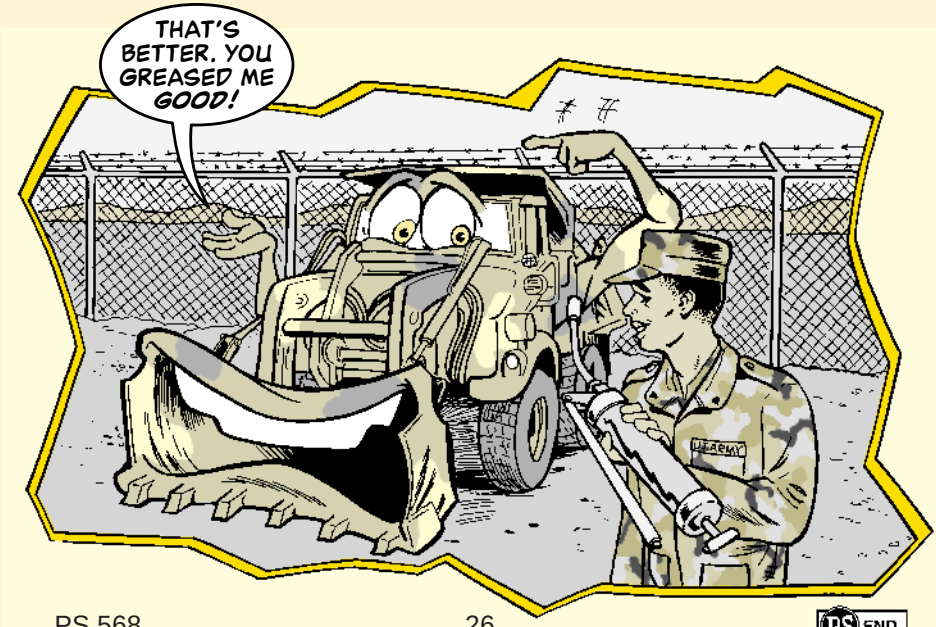
But without lube, the backhoe won't snap firmly into the travel lock even if you follow the procedures in the -10 TM. Then the backhoe bangs up and down during transport and the lock breaks along its welds.

So keep the backhoe lock lubed. During scheduled services, give the fitting four to five pumps of grease.

If the lock's welds are already broken, have your mechanic replace the lock with the newer wrap-around lock, NSN 3815-01-285-2300. This gets you the travel lock with mounting hardware, bail and bail pad, latch and installation instructions.








Dashing Through the SNOW
STARTING LINE
YEAR 2000 IDITAROD
DOG SLED RACE
THOSE SLEDS HAVE TO TRAVEL MORE THAN 1,000 MILES TO REACH NOME. CAN YOU IMAGINE HOW MUCH PM IT MUST TAKE TO MAKE IT THAT FAR?
AS A MATTER OF FACT, I CAN. MY GREAT-UNCLE NANOOK PLAYED A KEY ROLE IN THE VERY FIRST IDITAROD 75 YEARS AGO...

"IN FEBRUARY 1925, ALASKA EXPERIENCED ONE OF THE **WORST WINTERS** IN HISTORY."

"THE CHILDREN OF NOME WERE THREATENED BY AN OUTBREAK OF **DIPHTHERIA**. THE **CLOSEST** SUPPLY OF SERUM WAS IN ANCHORAGE..."

...BUT WEATHER CONDITIONS **PREVENTED** ITS **DELIVERY** BY PLANE OR TRAIN."

DOCTOR, THESE CHILDREN CAN'T LAST MUCH LONGER **WITHOUT** THE **SERUM.**

I KNOW. I TOLD THE GOVERNOR THAT *TIME* WAS RUNNING OUT!

"THE GOVERNOR OF ALASKA DECIDED TO USE A RELAY OF **DOG SLED TEAMS** TO TRANSPORT THE LIFE-SAVING SERUM TO NOME AS **QUICKLY AS POSSIBLE.**"

"GREAT-UNCLE NANOOK'S BEST FRIEND, JEBEDIAH FOSTER, WAS SCHEDULED TO RUN THE **LAST LEG** OF THE RELAY. UNFORTUNATELY, JEBEDIAH AND PM WEREN'T EXACTLY ON **SPEAKING TERMS.**"

FRAGILE DIPHTHERIA SERUM

C'MON... THERE'S A **HOSPITAL** FULL OF CHILDREN **WAITING** FOR THAT SERUM.

WISH ME **LUCK,** NANOOK!

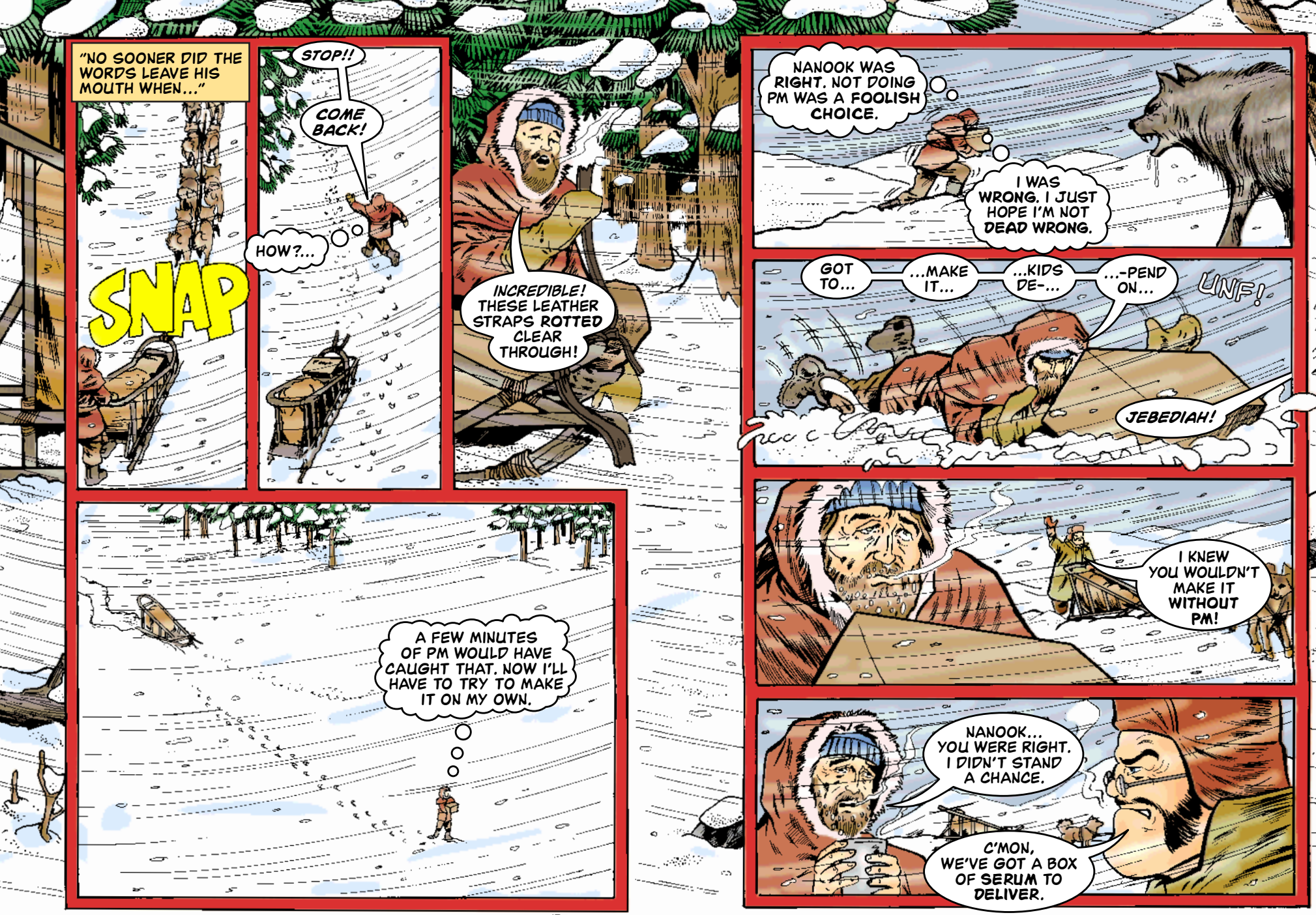
JEB, YOU KNOW HOW **BAD** THE CONDITIONS WILL BE OUT THERE! **PLEASE** TELL ME YOU PULLED ***PREVENTIVE MAINTENANCE*** ON YOUR SLED.

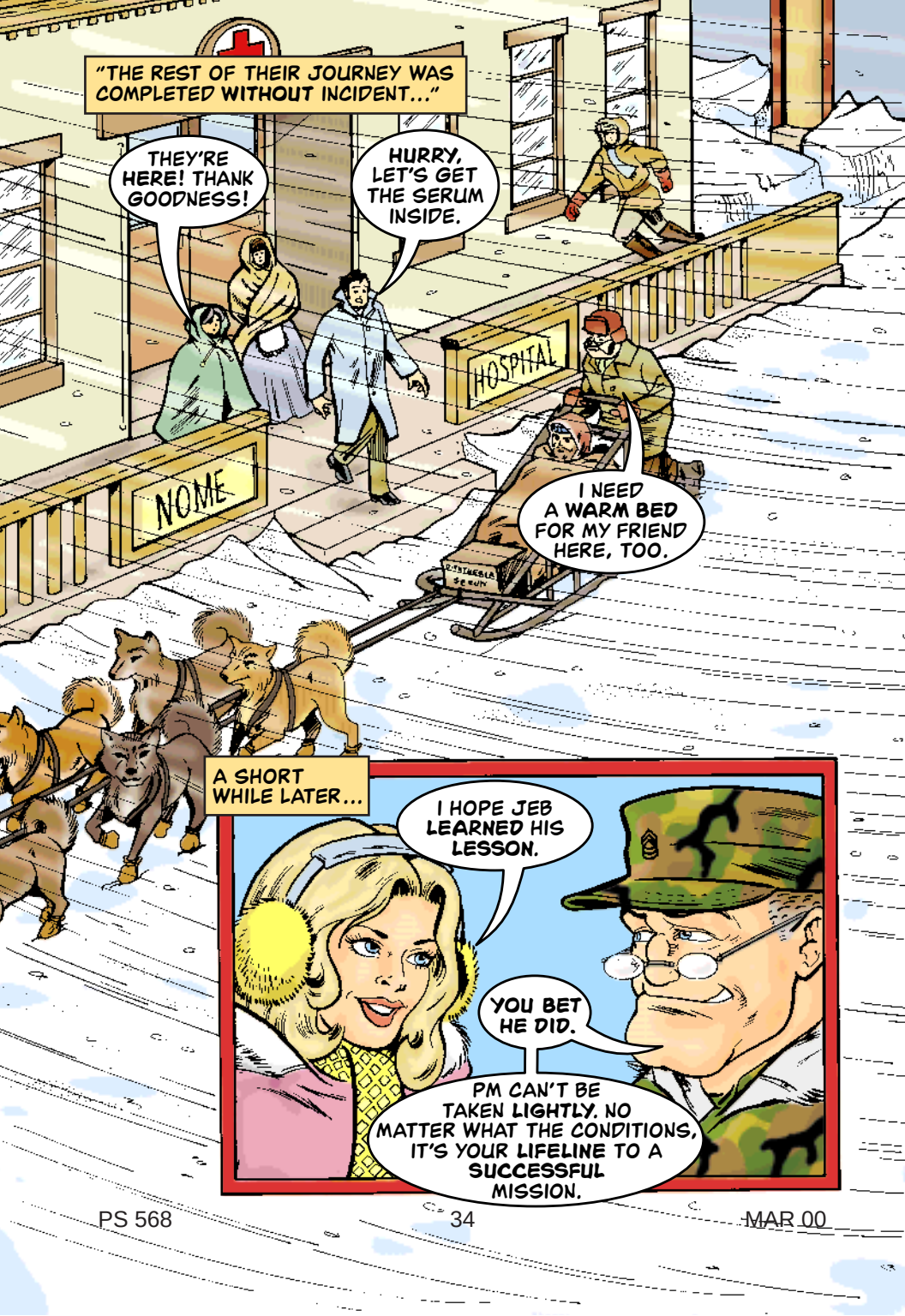
DIPHTHERIA SERUM

NANOOK, THOSE KIDS ARE DEPENDING ON THIS SERUM. **EVERY** SECOND COUNTS. THERE'S JUST **NOT ENOUGH TIME** FOR PM RIGHT NOW!


"SHORTLY AFTER BEGINNING HIS JOURNEY, JEBEDIAH ENCOUNTERED HIS FIRST PROBLEM."
I'D BETTER STOP TO CHECK THIS OUT.
YELP
JUMPIN' JEHOSHOPHAT! YOUR BOOTIE IS WORN CLEAR THROUGH!
GUESS I SHOULD HAVE CHECKED 'EM BEFORE I LEFT!
DRAT! I'LL JUST HAVE TO USE MY EXTRA SOCKS!


"JEBEDIAH RETURNED TO HIS JOURNEY ONLY TO RUN INTO MORE TROUBLE."
KRAK
NOW WHAT!
DARN RUNNER SNAPPED! A GOOD WAXING COULD HAVE PREVENTED THIS!
MAYBE I CAN MAKE DO WITH THESE BRANCHES AS A REPLACEMENT RUNNER.
THEY'RE NOT PRETTY, BUT THEY'LL HAVE TO DO.


"NO SOONER DID THE WORDS LEAVE HIS MOUTH WHEN..."
SNAP
STOP!!
COME BACK!
HOW?...
INCREDIBLE! THESE LEATHER STRAPS ROTTED CLEAR THROUGH!
A FEW MINUTES OF PM WOULD HAVE CAUGHT THAT. NOW I'LL HAVE TO TRY TO MAKE IT ON MY OWN.
NANOOK WAS RIGHT. NOT DOING PM WAS A FOOLISH CHOICE.
I WAS WRONG. I JUST HOPE I'M NOT DEAD WRONG.
GOT TO...
...MAKE IT...
...KIDS DE-...
...-PEND ON...
UNF!
JEBEDIAH!
I KNEW YOU WOULDN'T MAKE IT WITHOUT PM!
NANOOK... YOU WERE RIGHT. I DIDN'T STAND A CHANCE.
C'MON, WE'VE GOT A BOX OF SERUM TO DELIVER.


"THE REST OF THEIR JOURNEY WAS COMPLETED WITHOUT INCIDENT..."
THEY'RE HERE! THANK GOODNESS!
HURRY, LET'S GET THE SERUM INSIDE.
NOME
HOSPITAL
I NEED A WARM BED FOR MY FRIEND HERE, TOO.
A SHORT WHILE LATER...
I HOPE JEB LEARNED HIS LESSON.
YOU BET HE DID.
PM CAN'T BE TAKEN LIGHTLY. NO MATTER WHAT THE CONDITIONS, IT'S YOUR LIFELINE TO A SUCCESSFUL MISSION.

HGU-56/P Helmet . . .

Shrink This Problem to Size

Dear Editor,

Our unit has the new HGU-56/P helmet. It's a good helmet, but over time the mike boom comes loose and swings away from the user's face.

Instead of replacing the boom, make it tighter. Here's how:

Remove the boom from the tightening assembly and cover the ball with a 1/2 x 1/4-in piece of shrink wrap, NSN 5970-00-814-2878.

Use needle-nose pliers to stretch the wrap around the ball and shrink it to fit using a heat gun. Then trim off the excess, let the rest cool and reassemble the microphone boom. Problem solved.

This keeps the boom assembly tight for a long time—and is better than scratching the ball with sandpaper to keep it tight.

Add shrink wrap to ball to tighten boom

SGT Ian K. Davis
USAAMC-AAD
ALSE NCOIC
Ft Rucker, AL

SEAL OF Editor's APPROVAL

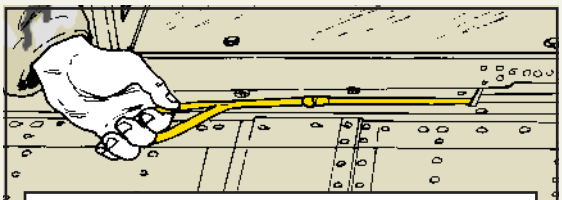
CH-47 . . .

Cargo to Rescue Mode Safety

Chinook crews, be sure to pull 30 feet of cable from the spool **before** you switch from the CARGO to RESCUE mode, on your Chinook's internal winch.

Otherwise, as soon as you switch to RESCUE, the 3 feet of exposed cable, along with its hook assembly, will quickly retract through the cable runner, then under the floorboards and wrap around the spool. Anyone or anything unlucky enough to be in the cable's path will be hurt or damaged.

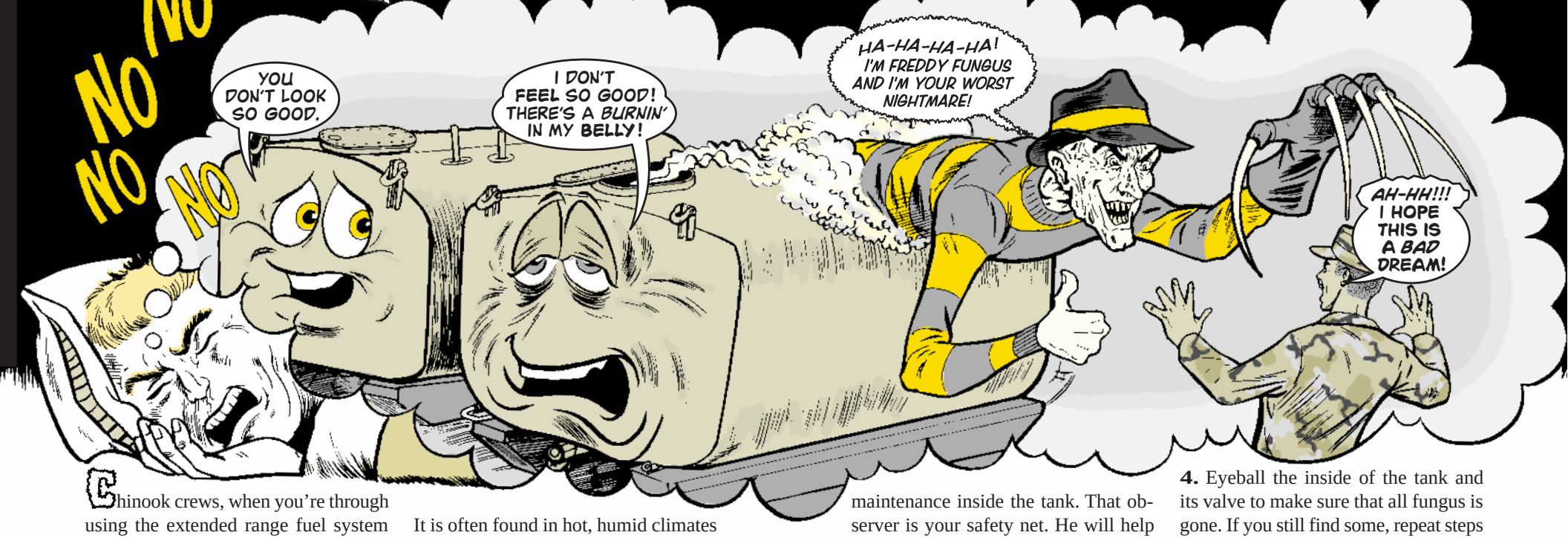
Avoid disaster—pull out 30 feet of cable **before** you switch to RESCUE. That way you'll be going to the rescue instead of being the one rescued.



Pull out 30 feet of cable before switching to RESCUE

PS 568

Nightmare On ERFS Street



Chinook crews, when you're through using the extended range fuel system (ERFS) tanks, make sure you follow the storage procedures in Section V of TM 55-1560-307-13&P before you store them.

If you don't, the next time you need the ERFS, you could find yourself face-to-face with a slimy fungus when you open the tank hatch. Worse yet, you could end up having to dispose of contaminated fuel before filling the tanks with clean fuel.

The fungus you'll find is a fuel-eating organism that thrives on all aviation fuels. Any fuel left in the ERFS tanks during storage is a free, all-you-can-eat buffet for that organism. It is often found in hot, humid climates when units fail to properly store the fuel cells and tanks.

The only way to clean up the mess is to get down and dirty inside the tank.

Before you start, always follow all safety instructions when working in fuel cells or tanks.

That means you must make sure the fuel in the tank(s) has been purged before anyone goes inside the tank. Fuel vapors mixed with the right air mixture inside the tank can cause a violent explosion if they are set off by sparks from a tool dropped inside the tank.

And, always remember to have a safety observer standing by during all maintenance inside the tank. That observer is your safety net. He will help get you out if needed. Here's how to get rid of the fungus:

1. Climb inside the tank and scoop out as much fungus as possible—use a non-metallic scraper and plastic bucket to clean out the majority of the fungus.

Do not use a metal scraper. The metal may damage the inside of the tank and could cause sparks. If you don't have a non-metallic scraper, you can make one out of a milk carton.

2. Scrub down the inside of the tank and its valve with warm soapy water.

3. Rinse the inside with a high-pressure hose to clean out the soapy water and residue.

4. Eyeball the inside of the tank and its valve to make sure that all fungus is gone. If you still find some, repeat steps 2 through 4 until the fungus is gone.

5. Dry out the tank and valves using lint-free towels or clean, dry, regulated compressed air.

6. Repeat these steps until all tanks, valves and hardware have been cleaned.

The fungus will not return if you follow proper PM storage procedures.

If you have any questions on this procedure, contact Matt Boenker at the Aviation and Missile Command. His phone number is (256) 313-4959 or DSN 897-4959. You can e-mail him at:

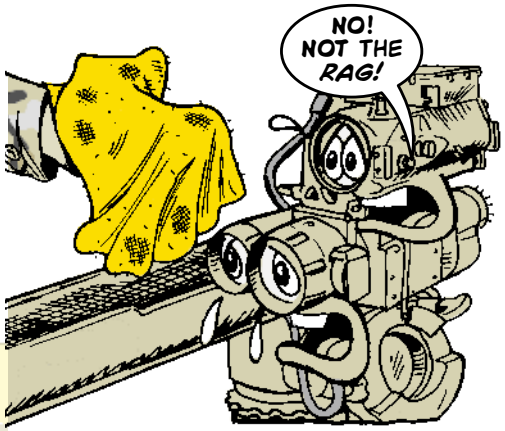
matthew.boenker@redstone.army.mil

Clean Sights Differently

Parts may be parts when it comes to chicken, but lenses are not lenses when it comes to cleaning TOW day sight and night sight lenses.

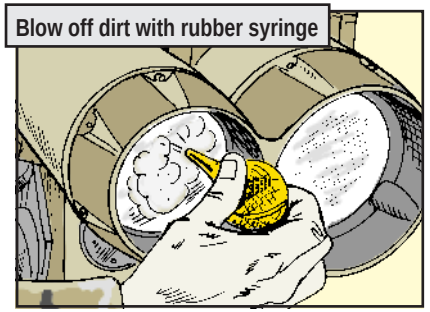
The lenses are quite different, so the procedures for cleaning each sight are quite different. If you don't do them right, you can damage expensive—as in thousands of dollars—lenses.

One thing that all lenses have in common, though, is that you do not clean them with rags, paper towels, shirttails, or anything similar. Those things are guaranteed to scratch all lenses.



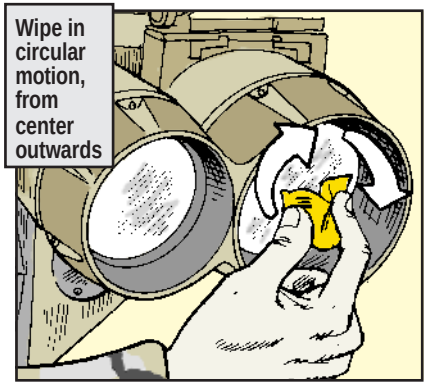
To clean **day sight** lenses, first blow off dust from the lens with the rubber syringe that's part of the cleaning kit. NSNs for the items in the kit are listed with the expendable supplies that begin on Page C-2 of TM 9-1425-450-12. Don't use your own breath. That puts moisture on the lens and attracts more dirt.

Blow off dirt with rubber syringe



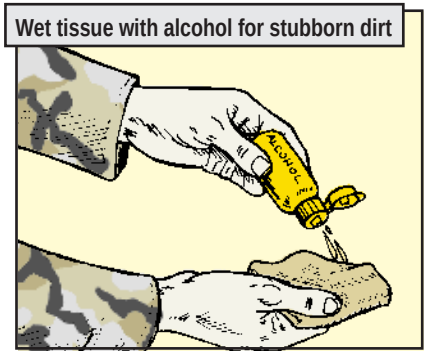
If the lens is still dirty, fold a lens tissue in half and then fold it in half again. Don't wipe the lens with the side of the tissue you touched. That puts oil from your skin on the lens.

Wipe in circular motion, from center outwards

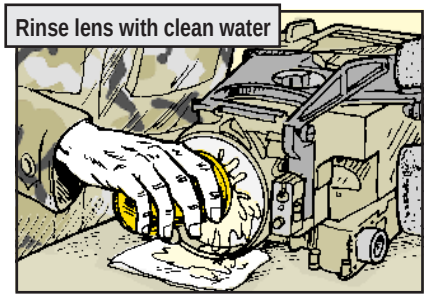


Starting at the center of the lens, wipe in a circular motion, slowly moving outward. If a dry tissue won't remove all the dirt or grease, wet a fresh tissue with alcohol and clean the lens again with the same circular pattern. Repeat if necessary, but always use a fresh tissue. Otherwise, you're just putting dirt back on the lens.

Wet tissue with alcohol for stubborn dirt

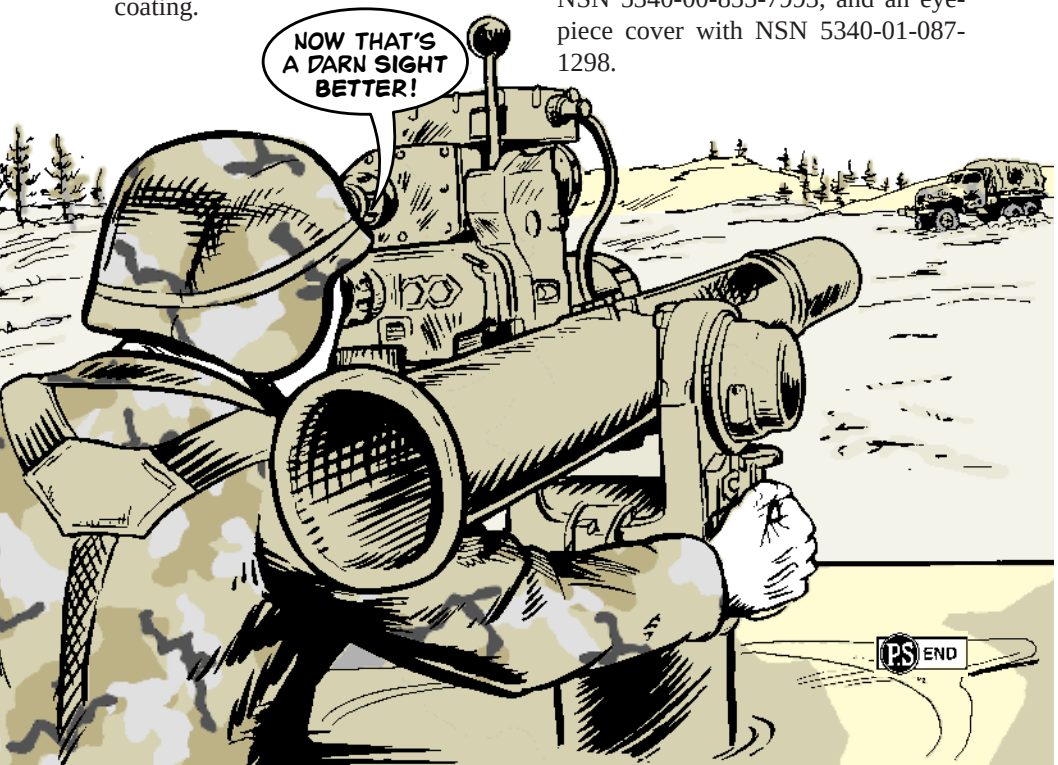


For the **night sight**, rinse the lens with clean water. If the lens is still dirty, wet a cotton pad with the lens cleaning solution from your cleaning kit. Dab the solution on the lens. Don't rub it on—you could scratch the lens. Wait one to three minutes for the solution to loosen dirt and then rinse the lens with clean water. If dirt still remains, repeat these steps until the dirt's gone. Don't let the cleaning solution dry on the lens. It can damage the lens coating.



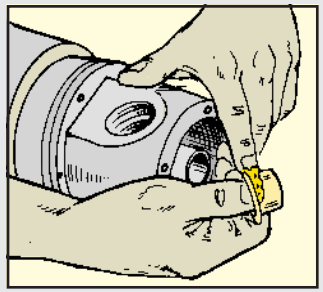
Of course, knowing how to clean the sights' lenses won't do you any good if you get to the field and don't have the cleaning materials. Before you leave, make sure you have lens tissue, cotton pads, alcohol, the rubber syringe, and cleaning solution.

Help the lenses stay clean by using their caps as much as possible. The day sight doesn't come with caps, but you can order a large cap with NSN 5340-01-121-8776, a small cap with NSN 5340-00-855-7993, and an eyepiece cover with NSN 5340-01-087-1298.



Avenger Missile System . . .

Don't Slip Up on Slip Ring



Water in the Avenger's slip ring makes the slip ring's performance slippery. But you can prevent some of the faults and erratic performance commo problems by telling your unit not to steam clean around the turret and to use low-pressure water for cleaning instead.

Also, remove the slip ring drain plugs and drain the slipring at least every 6 months. A good time to do it is when you grease the gears for the turret. In rainy or humid areas, drain the slip ring more often.

Keep the slip ring dry by putting RTV around the edges of the three plug caps before screwing them back in the slip ring. That helps them seal out moisture.

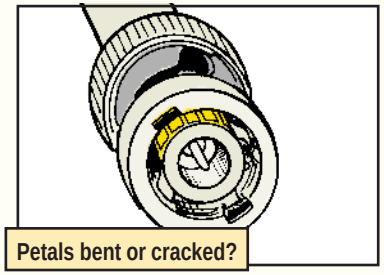
Patriot Missile System . . .

Pick These Tips Up on Radar

Dear Editor,

We've learned a couple of things that will help other Patriot units operate their AN/MPQ-53 radar sets:

✔ *Check the shielding for the RF (radio frequency) cable connectors before you go to the field. If the shielding petals are bent or cracked, RF will leak and you will get a poor signal. Report cables with damaged shielding.*



✔ *Take off all field gear before you go inside the radar van. There is little room to maneuver in the van. If you're wearing your web gear or mask or carrying your rifle, it's easy to catch one of the small wires and rip it out—and you won't even know it. It may take lots of troubleshooting to find that wire.*

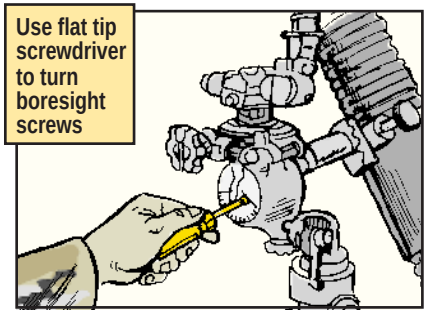
SFC Brandon Brennan
SGT Terry Bonham
B Btry, 3/6 ADA
Ft Bliss, TX

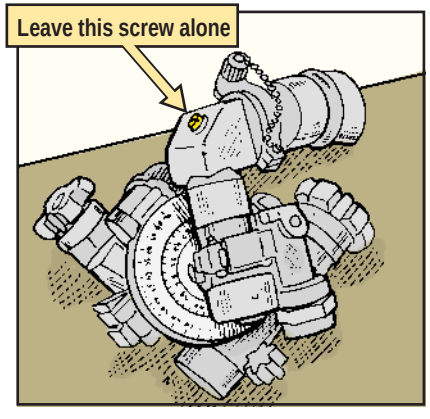
Protecting Your Sight

An M29A1 or M30 mortar with a bum sightunit is a mortar that's shooting blind. That means you won't hit your target and you could hit your own people. Here's how to keep your M53/M53A1 sightunit seeing clearly:

When you boresight, use the flat tip screwdriver that's part of the mortar's BII. Other screwdrivers can round out the screws' slots. Then you can't boresight until the screw's replaced.

But leave the elbow telescope screw alone. Monkeying with it can damage the telescope's seal.

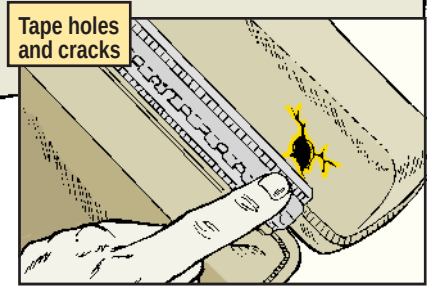




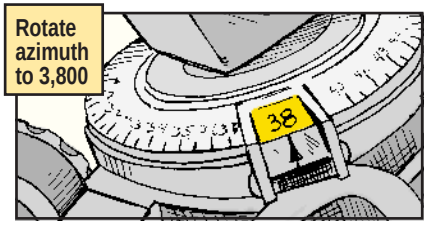
When you're finished boresighting, make sure the coarse elevation scale and elevation knob screws are tight. If they're even slightly loose, the shock from firing will throw off the sightunit's accuracy. A few more shocks and the screws fall out. No more boresighting.

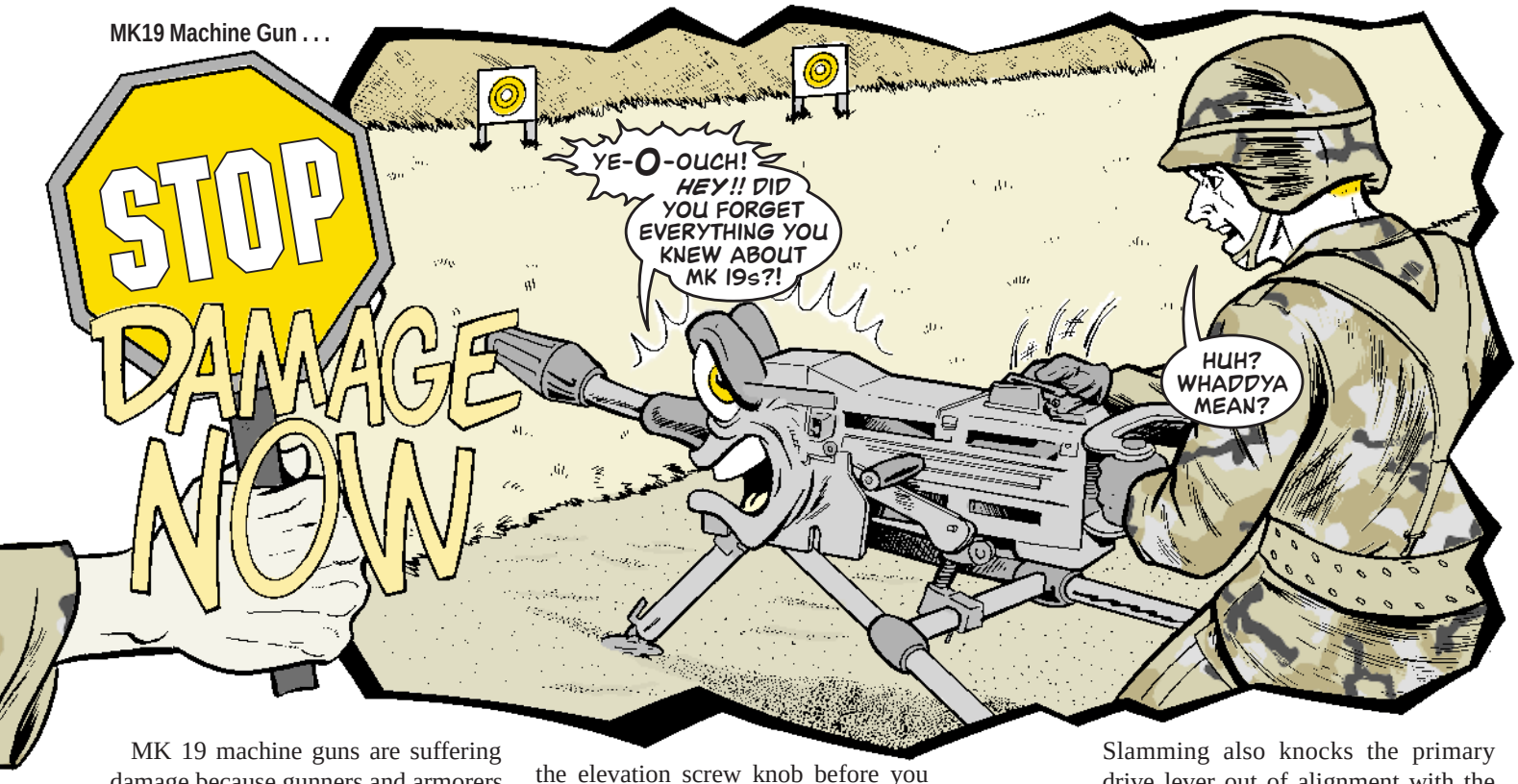
Be careful stowing the sightunit in its case. You may think you've positioned the sightunit OK, but unless you do it just right you may damage the lamp bracket holder. More likely, you could poke a hole in the case. Then dirt and moisture get a shot at the whole sightunit.

If the case does have a hole, tape the hole inside and out with duct tape until you can get a new case, NSN 1240-00-823-5611.



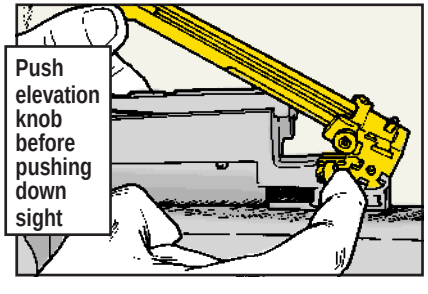
Be especially careful to rotate the azimuth to 3,800. And make sure the instrument light cables are positioned so they won't be pinched by the case lid and so they can't damage the eyeshield.



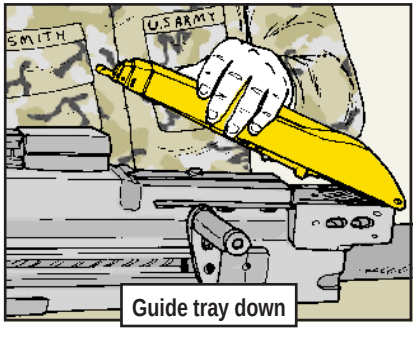


MK 19 machine guns are suffering damage because gunners and armorers don't know or don't remember what helps or hurts the gun.

Easy does it with the rear sight. It's broken more than anything else on the MK 19. Keep the sight down when you're not firing. Put the sight bar down before you put the sight down. Push in the elevation screw knob before you push down the sight. If you forget any of these steps, you may be sightless.


Push elevation knob before pushing down sight

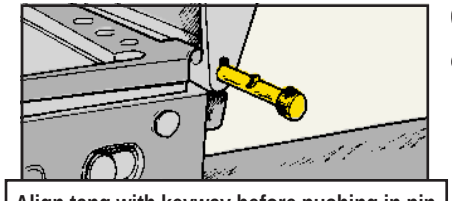
Guide the feed tray cover to the latched position. If you slam the cover shut, it chips or breaks the cover lock. Eventually, the cover can't be latched.



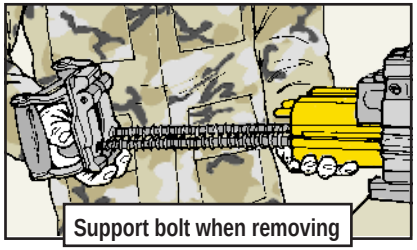
Guide tray down

Slamming also knocks the primary drive lever out of alignment with the secondary drive lever. That causes feeding problems.

Remember the tang. The feed tray cover pin has a tang that must be aligned with its hole's keyway when you install the pin. Make sure the pin is all the way in before closing the cover. Otherwise, you break the tang. The pin fits, but without the tang it works out during firing and makes the MK 19 unserviceable.


Align tang with keyway before pushing in pin

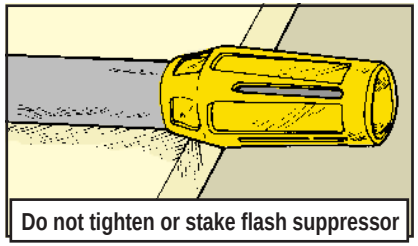
Support the bolt when you remove it. If you use the drive spring guides to pull out the bolt, the weight of the bolt bends the guides. Support the bolt with your other hand as you pull it out of the receiver.


Support bolt when removing

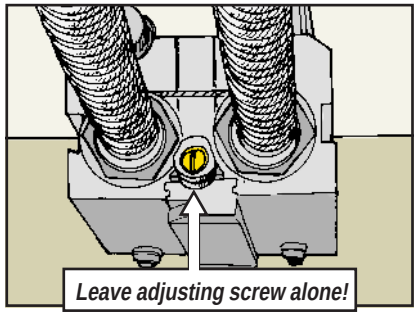
Do not dunk the sear assembly, bolt, or ogive plunger in cleaning solvent. They are sealed assemblies, but solvent still gets in and washes out their lubricant. Without lube, they will be ruined during firing. If you must use solvent to clean them, put the solvent on a rag or brush and use that to clean. Remember, anytime you clean with solvent you must lube the weapon again. Solvent not only cleans away carbon, but also lubricant. Make sure all solvent is wiped off before relubing.

P.S. MORE

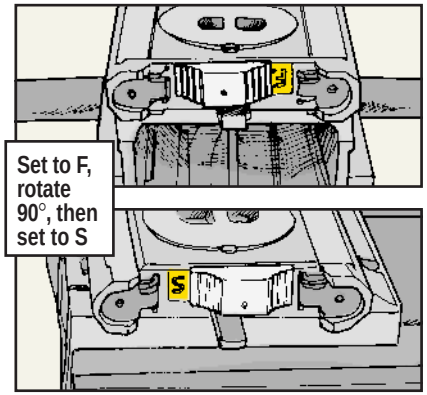
The flash suppressor is supposed to be slightly loose. If you or your armorer tighten or stake the suppressor, your MK 19 flunks inspection.

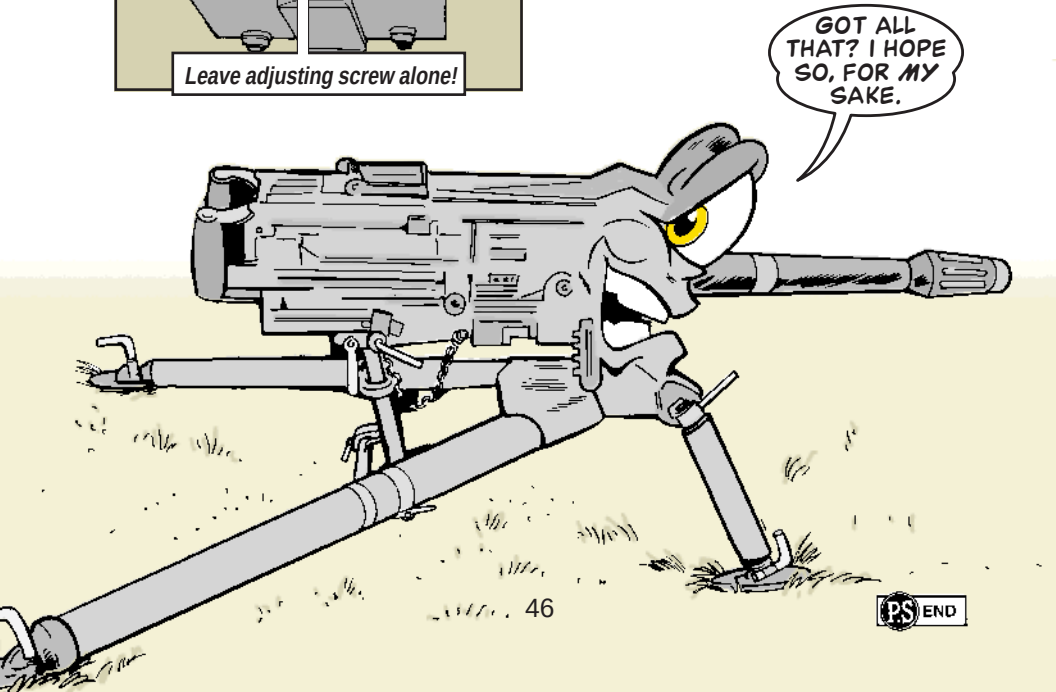


Leave the adjusting screw on the back of the bolt assembly alone. Messing with it messes up your MK 19's timing and could cause it to not fire.



Remove the sear housing correctly. If you remove the housing with the sear set to F, the sear comes apart and things like the spring can be lost. With the sear set to F, rotate the housing 90° to the first click. Push the switch to S and remove the housing.





PS END

M41 Protection Assessment Test System . . .

Don't Stand Pat on PATS

Some NBC NCOs have a valuable piece of test equipment sitting in their storage cabinets doing nothing but collecting cobwebs. It's the M41 Protection Assessment Test System (PATS).

The PATS will tell you with great accuracy if a mask fits right. But you've got to use it.

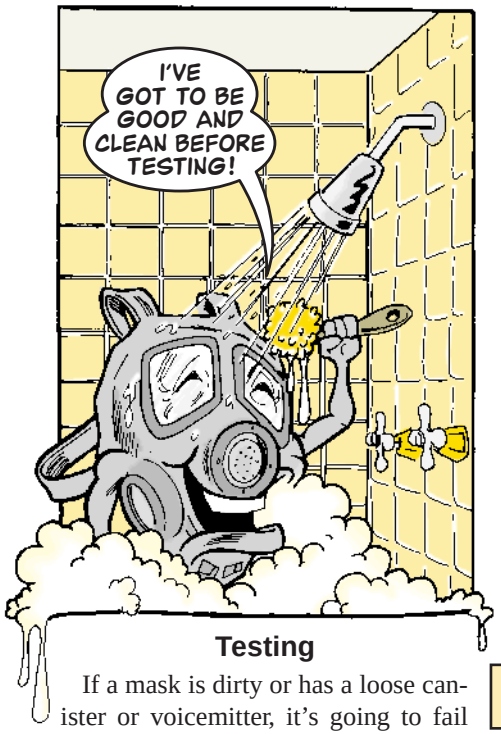
Remember, every member of your unit must be checked at least annually for mask fit. When a new soldier arrives, give him the PATS test—don't go by the mask size he wore at his last unit. They may have made a mistake.

If you don't have TM 3-4240-349-12&P, get it. It has PATS operating instructions and NSNs. Your pubs clerk can order it for you.

The most important PATS rule is to use only reagent grade isopropyl alcohol, NSN 6810-01-382-2904. PATS needs the purest alcohol possible. Drug store alcohol clogs its optic system. Then the PATS must be sent out for repair.

But be careful. Alcohol that pure is very flammable.

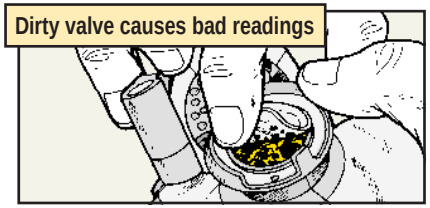
PS MORE



Testing

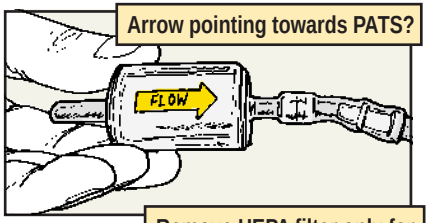
If a mask is dirty or has a loose canister or voicemitter, it's going to fail the PATS test. So have the soldier do a complete PMCS on his mask before you test it.

Then make sure the outlet valve cover is clean inside as well as out.



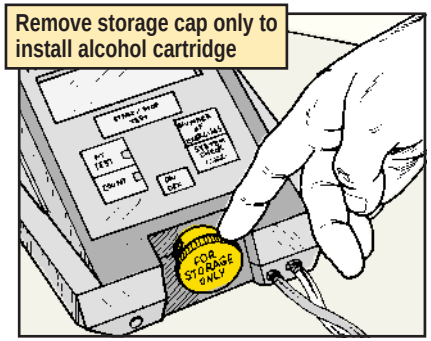
Also have the soldier wash his face with water and rinse out his mouth with water before testing his mask fit. Cologne, tobacco smoke and mouthwash all affect PATS test results.

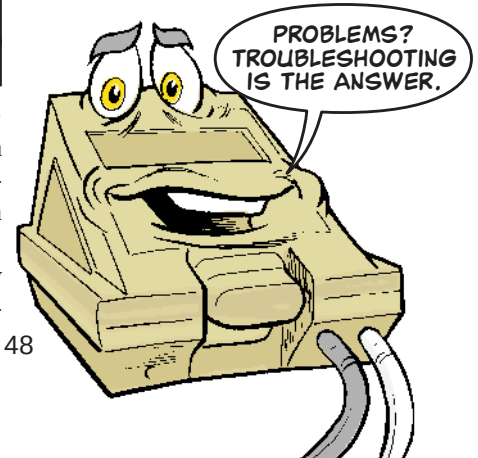
Make sure the HEPA (high efficiency particulate) filter arrow is pointing toward the PATS. If it's not, the filter can't stop contaminants from going into the PATS. Reverse the filter if it's pointing in the wrong direction.



Take off the HEPA filter only to do an ambient particle background check or a mask test.

Take off the storage cap only to install the alcohol cartridge. While using the cartridge, put the cap on the alcohol capsule to keep the alcohol uncontaminated.

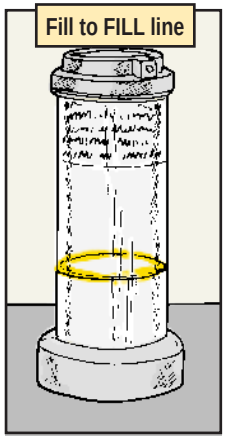




Troubleshooting

If you get a LOW PARTICLES display, try these troubleshooting steps:

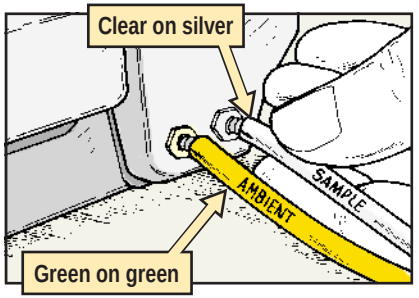
1. Open a window or light a candle. The air may be too clean.



2. Use fresh alcohol. Make sure you fill the cartridge to the fill line. Not enough alcohol can cause problems, too.

3. Change the alcohol wick.

4. Check that the twin tube assembly is not kinked or blocked and that the clear tube is hooked to the silver fitting and the green tube to the green fitting.



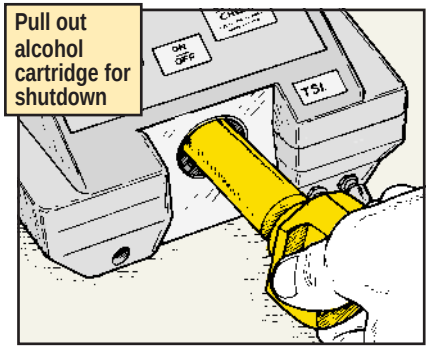
Check the tubes for moisture. Shake them out if necessary and hang them up to dry. If you have newer tubes, use them. Worn tubes sometimes lose their seal.

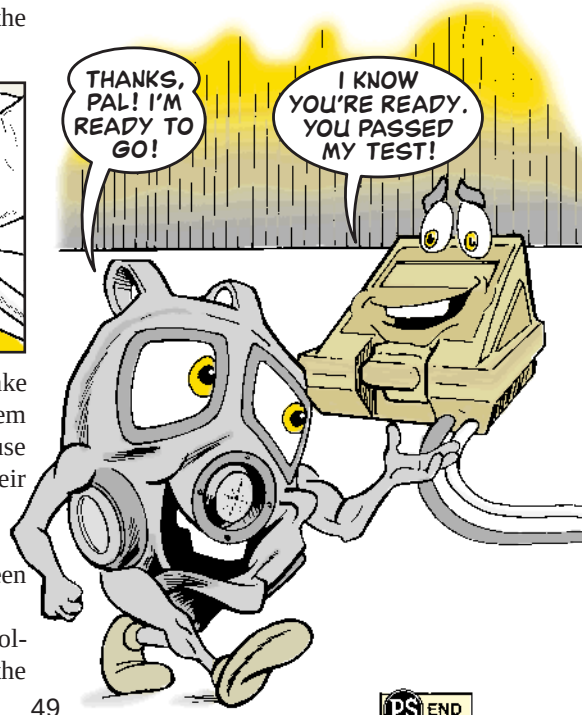
5. Change the HEPA filter.

No luck? Your PATS needs to be seen by your local TMDE unit.

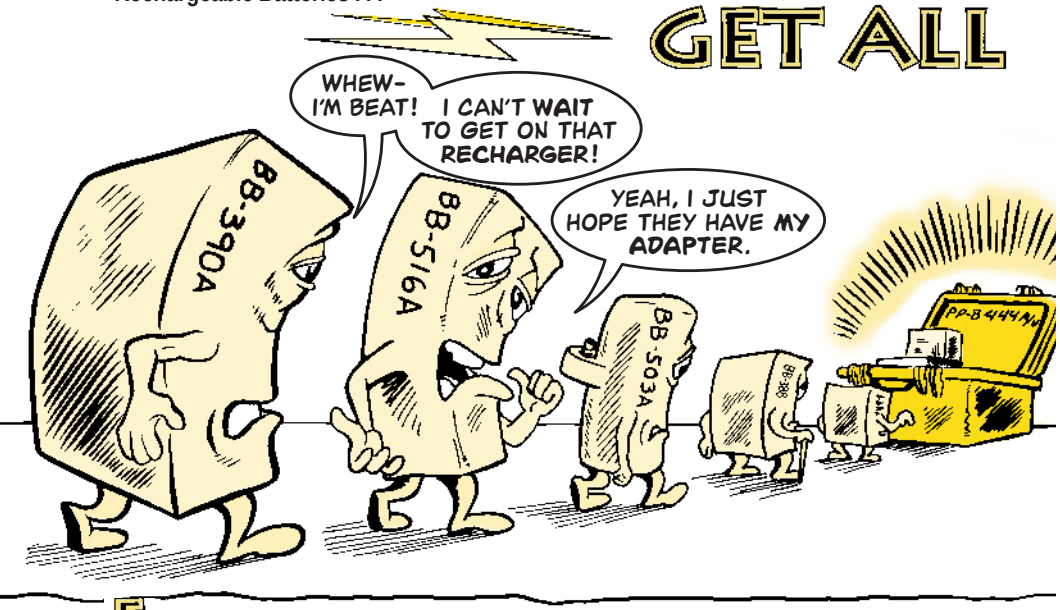
Another good tip is to have the soldier move his head slowly during the head-movement part of the test. If he jerks his head around, the difference in air flow can affect the test.

When you're through testing, remove the alcohol cartridge. If you leave it in, the alcohol saturates the counting mechanism. Put the storage cap back on to seal out contamination.





GET ALL CHARGED UP



Everyone needs a home, a place to kick back after a long, hard day and get recharged for the next day's battle.

Rechargeable batteries need a home, too, a place to rest, to let the remaining energy of the day drain away and to be recharged for the next day's battle.

Without recharging, your batteries will run down and die.

The home for rechargeable batteries is the battery charger. There are three in the Army system: two universal portable battery chargers, PP-8444/U, NSN 6130-01-427-9604, and PP-8444A/U, NSN 6130-01-443-0970; and the new charger-on-the-move (COTM), PP-8481/U, NSN 6130-01-467-9465.

All three chargers recharge the BB-390A, BB-388, BB-503A, BB-516A, and the BB-2847 rechargeable batteries. The two portable chargers can also recharge the BB-557 and the BB-2600.

PP-8444A/U battery charger

PP-8444/U and PP-8444A/U

These chargers are identical except for their power supply. The PP-8444/U operates on 90-125 volts AC. The PP-8444A/U operates on 100–250 volts AC.

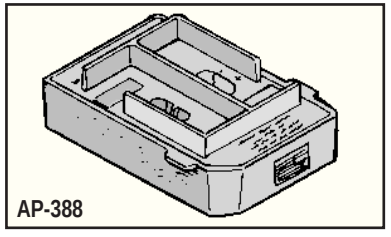
The power supplies are not interchangeable. However, when your DS orders a replacement power supply for the PP-8444/U, they'll get an upgrade kit to convert it to a PP-8444A/U.

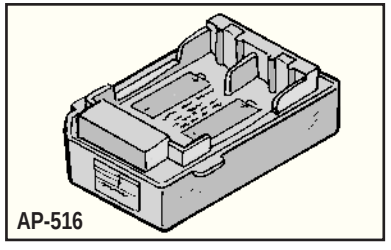
You can also power these chargers using the J-6363, 24-volt vehicular cable, NSN 5940-01-427-9395, that lets the charger operate from a vehicle's NATO slave receptacle.

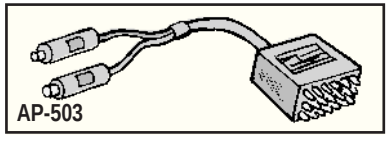
Until recently, you would wait around 2 hours to charge up another set of batteries on the PP-8444. Now there is a multi-station adapter, J-6518/U, NSN 5940-01-467-1176, that will let you line up 8 batteries. Two batteries charge every 2 hours until all 8 are charged.

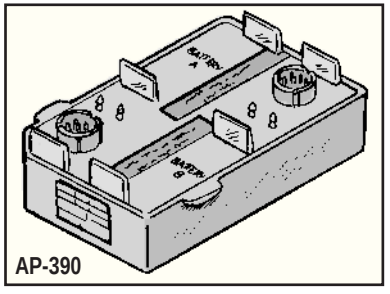
To use the multistation adapter with either PP-8444, you'll need 4 individual battery adapters in any combination you choose.

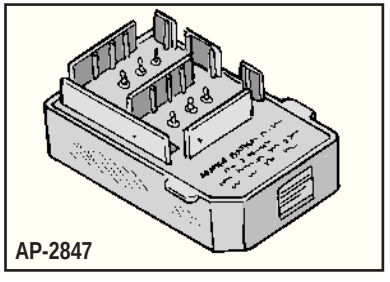
Battery	Adapter	NSN 5940-01-427-
BB-390	AP-390 (J-6358/P)	9110
BB-388	AP-388 (J-6357/P)	8601
BB-516A	AP-516 (J-6356/P)	9183
BB-503A	AP-503 (J-6355/P)	9247
BB-2847	AP-2847 (J-6354/P)	9278


AP-388


AP-516


AP-503


AP-390

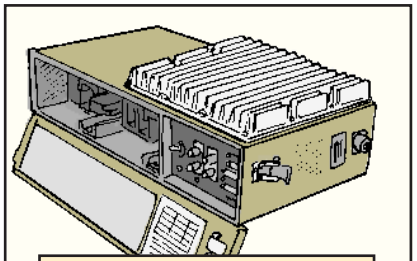

AP-2847

PS MORE

PP-8481/U

The PP-8481/U mounts in tactical vehicles and can charge while the engine is running or while it's off. The COTM charges two batteries at a time and holds another two ready for charging. When the first two batteries are fully charged, it automatically switches to charge the second pair.

The COTM can charge four BB-390s in about 4 hours.

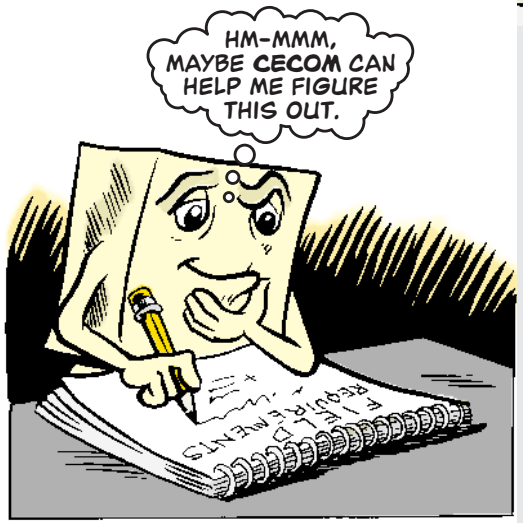


Charger-on-the-move (COTM), PP-8481/U, NSN 6130-01-467-9465

Charger Field Requirements

How many chargers your unit needs to take to the field depends on several factors:

- How long a rechargeable battery will last in a piece of equipment. For instance, a BB-390A/U used in your SINCGARS should last between 8 and 18 hours. You need to determine, by your unit's use, where in that range your batteries fall.
- How many battery-powered pieces of equipment you have.
- The amount of daily charging time available to your unit.
- Where the battery chargers are located.



That will help determine the number of backup batteries you will need on hand.

CECOM can help you determine your charger needs. Call or e-mail them at:

DSN 992-4948 or (732) 532-4948

brockeld@mail1.monmouth.army.mil

And check out their website at:

http://www.monmouth.army.mil/cecom/lrc/lrchq/power/rechargebat.html

Remember, the days of using non-rechargeable batteries for commo equipment used in training and garrison duties are gone since DA memo DALO-SMR, 29 Aug 97, was issued. Need a copy? Call the Army's Combined Arms Support Command (CASCOM) at DSN 687-0040 or (804) 734-0040. Or pull it off the above website.

PS END

AN/PRC-112 Radio . . .

Get Your Free Upgrade

The AN/PRC-112 has been plagued by three pesky problems that a free upgrade now solves.

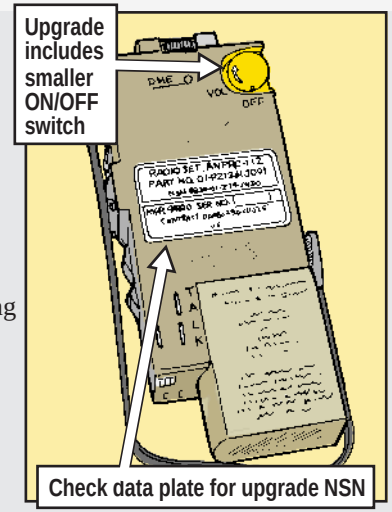
First, the large VOL/OFF knob was often accidentally turned on and left on. That drained the battery.

The upgrade replaces the current knob with a smaller one that will be harder to accidentally turn on.

Second, water had a nasty habit of slipping past the seal and into the radio.

A new, better gasket replaces the old one and stops this water intrusion.

Third, a more efficient transponder module will be installed that will solve the problem of chance frequency hopping.



In addition to solving these problems, the upgrade also refinishes the radio's case to provide better seating of the new gasket.

Upgrades are already in progress. Check your radio to see if it has been upgraded, yet. Look at the data plate. If the NSN is 5820-01-458-6018, relax. It's been upgraded.

If the NSN is 5820-01-279-5450 and a Tobyhanna Army Depot (TYAD) sticker has been added, it's been upgraded, too.

If not, then you need the upgrade.

Contact CECOM at DSN 992-1191 or (732) 532-1191. Or e-mail them at:

jetterb@mail1.monmouth.army.mil

They'll give you instructions on how to get the process rolling.

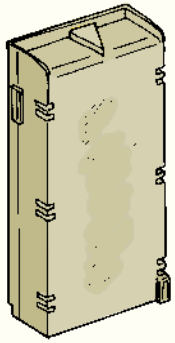
Put a Charge in the Ni-Cad Battery

Having a 4102 portable printer, NSN 7025-01-435-9548, hanging on your hip makes printing bar codes for the automated data collection system a snap.

But it's your temper that will snap if the rechargeable nickel-cadmium (ni-cad) battery doesn't have the power to run the printer.

Many ni-cads are ruined because they're not discharged and charged correctly.

Recharge ni-cad battery



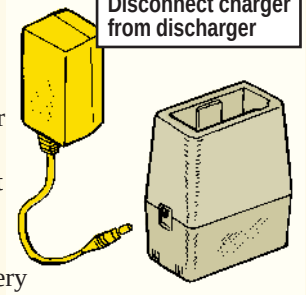
Discharging

Here's what to do when the printer beeps repeatedly and its power light flashes to tell you the ni-cad needs recharging:

Before you can properly charge the ni-cad, you must completely discharge it.

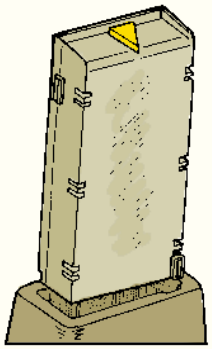
So make sure the battery charger is not connected to the discharger stand. If it is, and the battery still has a high charge, the battery will overheat. This could ruin the ni-cad and damage the discharger.

Disconnect charger from discharger



Next, make sure the rectangular tab on the lower right corner on the back of the battery is aligned with the indented guide slot on the discharger stand. It is possible to insert the ni-cad into the stand in reverse. This will give a false reading that the battery is fully discharged. Then, when you charge the battery, you'll short circuit the battery to the stand and maybe cause a fire. You'll definitely damage the stand and the battery.

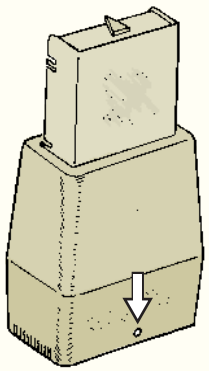
Arrow points to rear of discharger



Make sure the arrow on top of the battery is pointed toward the rear of the discharger stand.

Once the battery is properly seated in the discharger, a red light will go on in the stand if the battery has any residual charge.

Red light off? Make sure battery is installed right



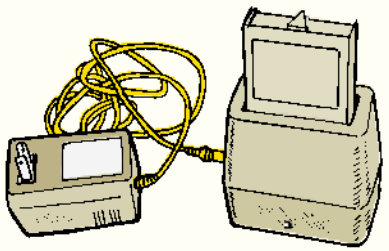
Most batteries have a residual charge, so if the red light does not come on, check to make sure the battery is properly inserted in the stand.

When the red light on the stand goes out, the battery is completely discharged and can then be recharged. The complete discharge of a ni-cad can take up to 2 hours.

Charging

Plug the battery charging unit into the jack on the discharge stand. Plug the charging unit into an AC power outlet.

Plug charging unit into discharge stand



Press the red button on the charger to start the charging cycle. A red light on the charger will come on.

When the red light goes out, the battery is fully charged. Charging can take up to 6 1/2 hours.

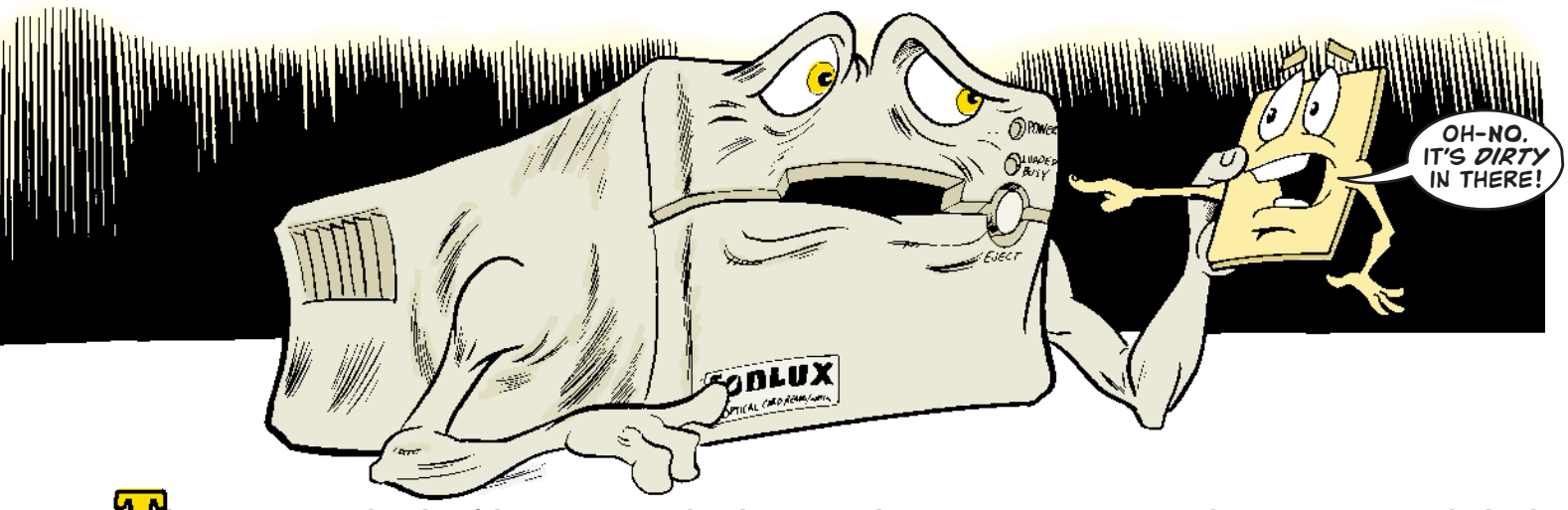
If the printer requires any warranty or maintenance support, call the Intermec Hotline. In the U.S., dial (800) 892-7007.

In Germany, call them at 0130-82-21-55. In Korea, call them at 007-981-6800-3076.

Or e-mail them at:

support@intermec.com

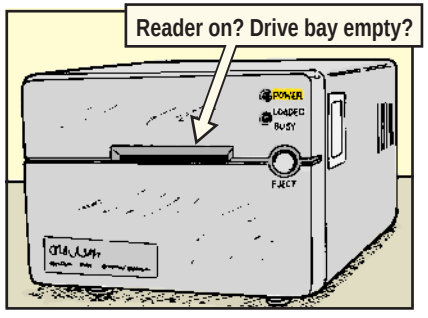
Make 'em Come Clean



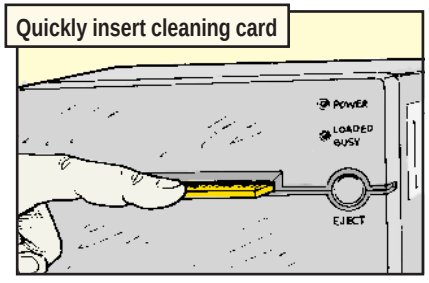
The LC-305S optical reader of the automated manifest system needs to be cleaned every couple of weeks. Without cleaning, the dirt and dust that accumulates in the reader scratches the surface of the optical cards and causes read and write errors.

Here's how to regularly clean the unit:

Turn the reader on and make sure the drive bay is empty.

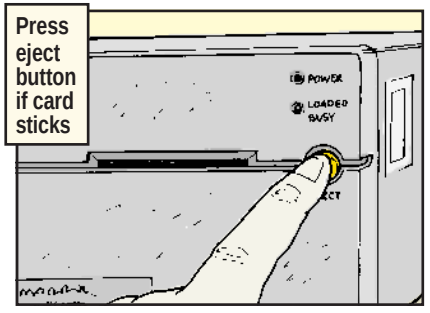


Remove the cleaning card, NSN 7930-01-467-4060, from its pouch and put it in the drive bay. Do it quickly before any of the isopropyl alcohol on the card evaporates.



You should hear the drive rollers and head working to read the card. While they're doing that, they're being cleaned.

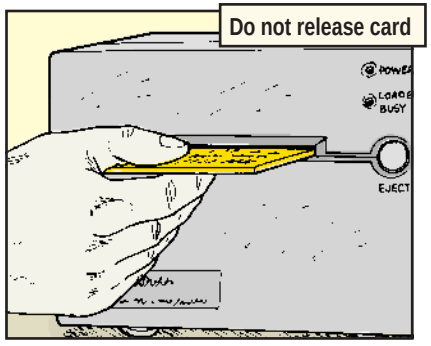
After just a couple of seconds, the card should be automatically ejected. But sometimes it gets stuck. If that happens, don't try to remove it by hand. That could damage the rollers or knock them out of alignment. Instead, press the eject button until the card is ejected.



If, after several attempts, it still won't come out, wait 5 minutes or until the alcohol evaporates. Once the alcohol has completely evaporated, the card should automatically eject. If it doesn't, press the eject button several more times.

If the card remains stuck, turn the reader in for service.

After the first cleaning card is ejected, put in a new card. This time, hold onto the card once you've inserted it in the drive—don't let go! This will force the load rollers to work against the cleaning card and will remove any built up grease or oil. Remove the card from the drive after 4–5 seconds.



Never re-use a card. You'll just put the dirt and debris back into your reader. Also, be aware that the cleaning card is saturated with isopropyl alcohol and should not be used near an open flame.

You won't find this info in any TM, so keep it handy.

If you need warranty or maintenance info on your reader, call the Intermec tech support hotline:

CONUS (800) 892-7007

Germany 0130-82-21-55

Korea 007-981-6800-3076

The e-mail address is:

support@intermec.com

Stretchy Tiedowns

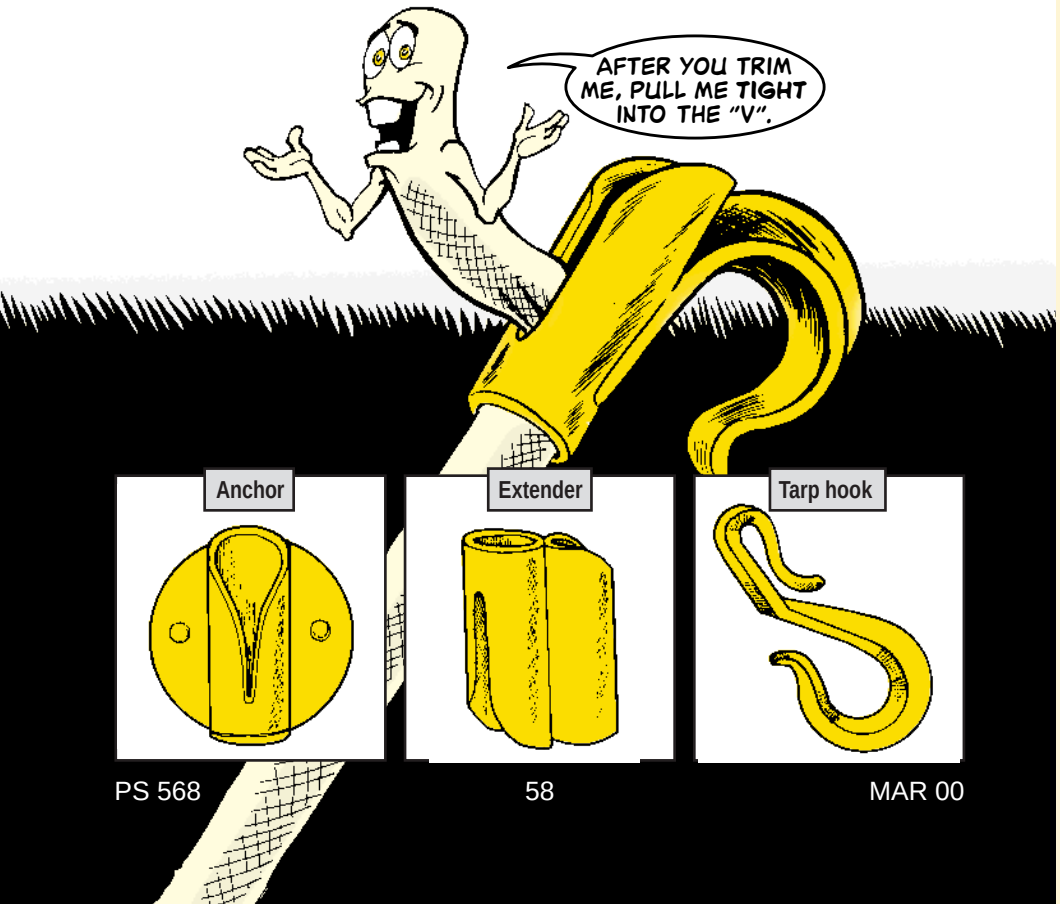
Got a need to tie down tents, vehicle tarps, tool boxes, fuel cans or other light loads, but you don't have anything sorta stretchy that'll do the trick?

Try a new tie-down strap (bungee cord) that can be used almost anywhere because it comes in a roll you can cut to any length you need.

Here's a list of the cord and hardware that's available:

The extenders are used to make slipknots and complete circles where hooks sometimes don't fit. Anchors can be attached permanently where you need them every day.

Item	NSN 3990-01-387
Extenders, 50 each	3699
Hooks, 50 each	3702
Anchors, 50 each	3667
Tarp hooks, 50 each	3687
Cord, 150-ft roll	3781
Cord, 300-ft roll	3707



Ribbons, Medals, Insignia

Need help tracking down NSNs for service ribbons, insignia, medals or awards? Go to the Defense Supply Center Philadelphia web page at:

http://www.dscp.dla.mil

Click on Clothing and Textiles and go to ASCOT, their interactive catalog, where you can search for all clothing and related items.

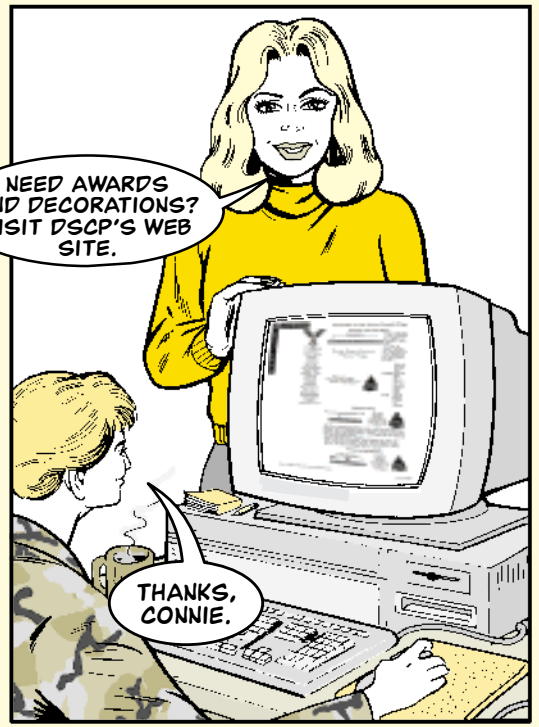
Need more help? Go to the US Army Soldier and Biological Chemical Command Soldier Systems Team in Philadelphia.

Contact Velveeta Bolden, (215) 737-2519 or DSN 444-2519.

E-mail: **vbolden@dscp.dla.mil**

or Jodi Franklin, (215) 737-2515 or DSN 444-2515.

E-mail: **jfranklin@dscp.dla.mil**



Supply . . .

Tobyhanna Sends It Certified

If you get a piece of equipment from Tobyhannna Army Depot (TYAD), don't look for DD Form 1574, Serviceable Tag-Materiel.

Because of the volume of repair work at TYAD, they use a local form, SIOTY Form 2149 (Certified Product Tag), to confirm that the item is repaired.

So, don't worry—the buff-colored SIOTY 2149 says the equipment is good to go. It's Condition Code A. Doubtful? Then check out the condition code in column 71 of your receiving document, DD Form 1348-1A.

Unit Supply . . .

Turn on to Turn-ins!

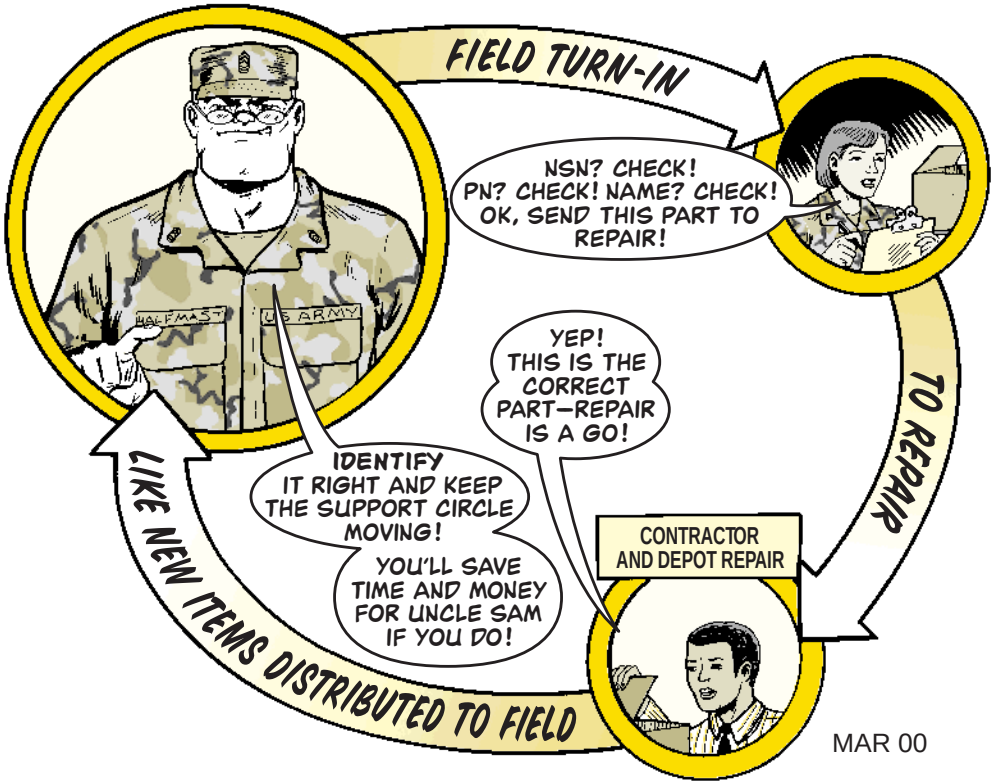
When you turn in excess property, or property in need of repair/replacement, or property "found on post", make sure you identify it correctly.

If you don't, you may not get the credit you have coming—about 40 percent of the AMDF standard price for excess items and one-for-one credit on items being turned in for repair or replacement.

A bad item identification also keeps the system from knowing what's available for issue. That can keep units from getting items they need to meet their not mission capable supply (NMCS) needs.

So make sure you comply with the turn-in procedures spelled out in Chap 3 of DA Pam 710-2-1.

That means you clean the item, prepare shortage lists and do technical inspections when needed. You also need to correctly identify the item by NSN, part number (if you know it) and nomenclature. If you've got the ID right, the repair activity will know what they have, make the repairs and get the items back into the system.



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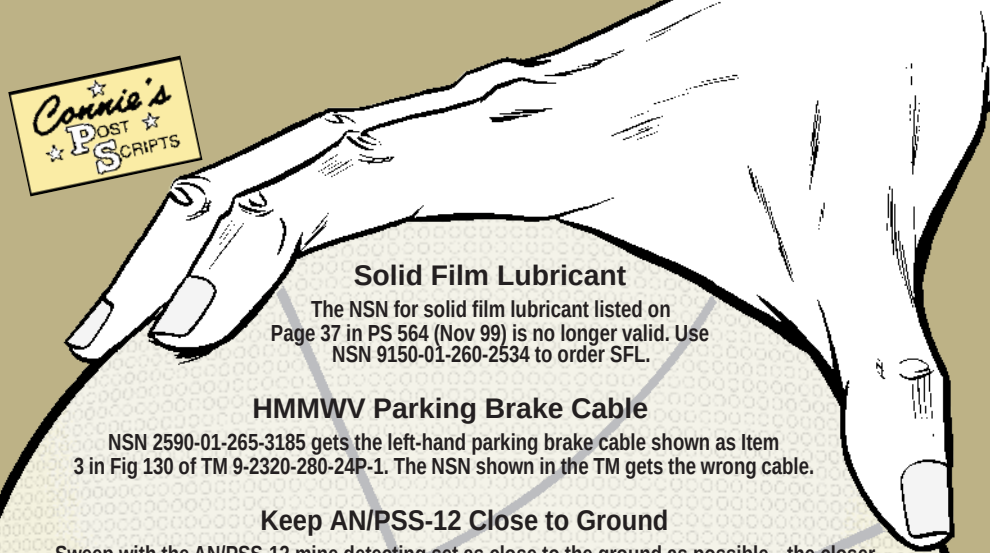

Solid Film Lubricant

The NSN for solid film lubricant listed on Page 37 in PS 564 (Nov 99) is no longer valid. Use NSN 9150-01-260-2534 to order SFL.

HMMWV Parking Brake Cable

NSN 2590-01-265-3185 gets the left-hand parking brake cable shown as Item 3 in Fig 130 of TM 9-2320-280-24P-1. The NSN shown in the TM gets the wrong cable.

Keep AN/PSS-12 Close to Ground

Sweep with the AN/PSS-12 mine detecting set as close to the ground as possible—the closer the better. Page 22 in PS 565 (Dec 99) said to sweep with the search head 6 inches above the ground over uneven ground. DON'T DO IT. That's wrong. Never sweep more than 2 inches above the ground, regardless of how rocky the ground is. Sweep slowly, with the head as close to the ground as you can get it. Carefully follow the instructions in TM 5-6665-298-10.

HMMWV Safety Message

Right now, check all HMMWV power distribution boxes, NSN 6110-01-446-7126, for a label that says "VER 14.0A". VER 14.0A boxes won't let the engine start on its own after the truck has been shut down. Replace all boxes that *DO NOT* have this label with new boxes, per TACOM safety-of-use message (SOUM) 00-006 (24 Nov 99). Boxes that don't have the label can be turned in for full credit until Jun 00. See the SOUM for details.

Better M157 Cap

If you have trouble unscrewing the fog oil tank cap on the M157A2 smoke generator, order the new cap, NSN 2590-00-459-8447. The new cap has metal tabs that make it easier to grip.

15-KW, 30-KW Fan Belts

Having trouble getting the right fan belt for your 15-KW and 30-KW tactical quiet generators? Get the fan belt for the 15-KW, Item 53 of Fig 12 in TM 9-6115-643-24P, with NSN 3030-01-463-9774. The fan belt for the 30-KW, Item 61 of Fig 12 in TM 9-6115-644-24P, is NSN 3030-00-528-4626.

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series.

Would You Stake Your Life right now on the Condition of Your Equipment?

Issue 568

PS

March 2000

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-568

Approved for Public Release; Distribution Is Unlimited

Dashing Through the Snow . . . See Page 27